

2024 Cost of Service

EXHIBIT 3: LOAD AND CUSTOMER FORECAST





Exhibit 3: Table of Contents

2.3	Load and Customer/Connection Forecast	2
2.3.1	Overview of Load Forecast Methodology	2
2.3.1.1	Forecast Methodology – Multivariate Regression Model	6
2.3.1.2	Customer/Connection Forecast by Rate Class	13
2.3.1.3	Determination of Weather Normalized Forecast	16
2.3.1.4	Demand Billed kW Load Forecast.....	20
2.3.1.5	Incorporating CDM Impacts in the Load Forecast.....	21
2.3.1.6	Summary of Load Forecast.....	23
2.3.2	Accuracy of Load Forecast and Variance Analysis.....	24
2.3.3	Appendices	32
Appendix 3 (A)	2024 Load Forecast Model	33
Appendix 3 (B)	OEB Appendices 2-IB Load Forecast Analysis	34
Appendix 3 (C)	Monthly Data Used in Regression Analysis.....	38



1 **2.3 Load and Customer/Connection Forecast**

2
3 The following section of this application covers the approach taken to determine the Load Forecast
4 for the Test Year. This section also reviews the data sources for customers and load forecasts. It
5 explains wholesale purchases and subsequent adjustments to the wholesale purchases. It also
6 provides the rationale behind each variable used in the regression analysis. Lastly, it presents the
7 regression results and explains how they were used to determine the 2024 Test Year distribution rates.
8 WDI has filed the 2024 Load Forecast as Appendix 3 (A).

9

10 **2.3.1 Overview of Load Forecast Methodology**

11
12 The purpose of this evidence is to present the process used by Wasaga Distribution Inc. (WDI) to
13 prepare the weather-normalized load and customer/connection forecast used to design the proposed
14 2024 electricity distribution rates.

15
16 WDI used the same regression analysis methodology approved by the Ontario Energy Board (the
17 Board/OEB) in WDI's 2016 Cost of Service (COS) application. The regression analysis has been
18 updated to include actual data to the end of 2022.

19
20 It is WDI's view that conducting a regression analysis on historical purchases to produce an equation
21 that will predict energy purchases is appropriate. WDI knows by month the exact number of kilowatt
22 hours (kWhs) purchased from the Independent Electricity System Operator (IESO) for use by
23 customers of WDI. With a regression analysis, these purchases can be related to other monthly
24 explanatory variables such as heating and cooling degree days that occur in the same month. The
25 result of the regression analysis produces an equation that predicts the purchases based on the
26 explanatory variables. This prediction model is then used to forecast the total level of weather
27 normalized purchases for WDI for the bridge and test year, converted to billed kWh by rate class. A
28 detailed explanation of the process is provided in this exhibit.

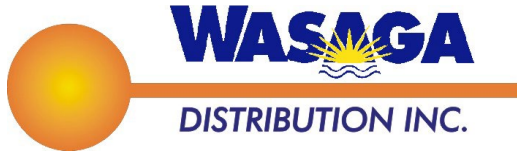
29



1 Based on the Board’s approval of this methodology in WDI’s last COS application and the OEB’s
2 approval of this same method in recent COS applications of other applicants. WDI submits that the
3 load forecasting methodology is reasonable for the purposes of this Application.

4
5 For further clarification, WDI did not factor in the effects of electrification demand or the increase in
6 Distributed Energy Resources (DER) in its 2024 load forecasting, deeming them to be insignificant.
7 WDI conducted a Load Growth Analysis Study, which is provided in Exhibit 2, Appendix 2 (C). WDI is
8 committed to ongoing investments aimed at enhancing its system's visibility and its ability to support
9 electrification effectively. The company continues to closely monitor the repercussions of
10 electrification, receiving data from Service Ontario and the Electrical Safety Authority (ESA), while
11 also regularly tracking transformer loads. As electrification's significance in load forecasting grows,
12 these impacts will be taken into account.

13
14 The following tables provide the material to support the weather normalized load forecast used by
15 WDI in this application. Tables 3.1, 3.2, and 3.3 below provide a summary of the weather normalized
16 load and customer/connection forecast used in this section for the 2023 and 2024 forecast periods.
17 WDI has provided 2013-2022 actual data unless otherwise noted.



1 **Table 3.1: Summary of Load and Customer/Connection Forecast**

Year	Billed (kWh)	Change (kWh)	Percentage Change %	Customer/Connection Count	Average Growth	Percentage Change %
Billed Energy (kWh) and Customer Count/Connections						
2016 Board Approved	127,120,383			16,158		
2013	126,056,266			15,413		
2014	127,013,614	957,348	0.76%	15,681	268	1.74%
2015	128,166,037	1,152,423	0.91%	15,956	275	1.75%
2016	127,885,499	(280,538)	(0.22%)	16,244	288	1.80%
2017	125,028,584	(2,856,915)	(2.23%)	16,515	271	1.67%
2018	134,228,686	9,182,947	7.36%	16,763	248	1.50%
2019	133,654,396	(642,005)	(0.43%)	17,010	247	1.47%
2020	139,481,593	5,912,066	4.36%	17,277	267	1.57%
2021	143,103,047	3,621,454	2.60%	17,541	265	1.53%
2022	145,877,729	2,774,682	1.94%	17,894	353	2.01%
2023 Bridge	147,433,724	1,555,995	1.15%	18,300	406	2.27%
2024 Test	150,235,376	2,801,652	1.95%	18,596	296	1.62%

2
 3 On a rate class basis, actual, actual based on a weather normalized basis and forecasted billed are
 4 shown in Table 3.2.



1

Table 3.2: Billed Energy by Rate Class

Year	Residential	General Service < 50 kW	General Service > 50 kW - 4999 kW - Excluding WMP	General Service > 50 kW - 4999 kW - WMP	Street lights	Unmetered Scattered Load	Total
Billed Energy (kWh) – Actual							
2013	86,276,533	16,432,349	17,691,775	3,594,883	1,796,176	264,550	126,056,266
2014	87,611,190	16,552,641	17,311,423	3,453,199	1,834,665	250,496	127,013,614
2015	88,019,894	16,816,720	17,836,299	3,423,047	1,811,343	258,733	128,166,037
2016	89,543,529	17,017,151	17,027,791	3,180,756	932,624	183,648	127,885,499
2017	87,839,401	17,003,638	16,474,910	2,803,203	758,718	148,714	125,028,584
2018	95,897,147	17,666,223	17,070,974	2,678,677	761,759	153,906	134,228,686
2019	95,046,949	17,600,016	17,411,107	2,668,244	773,932	154,158	133,654,396
2020	102,567,918	16,820,699	16,401,961	2,734,870	803,024	153,122	139,481,594
2021	104,845,989	17,504,591	17,067,244	2,738,840	791,018	155,365	143,103,047
2022	105,212,685	18,818,565	18,037,476	2,821,873	802,430	184,700	145,877,729
Billed Energy (kWh) – Weather Normal							
2016 Board Approved	88,424,733	17,097,027	17,434,185	3,332,217	611,199	221,022	127,120,383
2013	86,265,336	16,430,216	17,689,479	3,594,416	1,795,943	264,516	126,039,907
2014	88,400,909	16,701,845	17,467,467	3,484,326	1,851,203	252,754	128,158,503
2015	87,873,466	16,788,744	17,806,627	3,417,353	1,808,330	258,303	127,952,822
2016	89,066,010	16,926,401	16,936,985	3,163,793	927,651	182,669	127,203,510
2017	88,546,625	17,140,540	16,607,555	2,825,773	764,827	149,911	126,035,230
2018	93,198,095	17,169,002	16,590,507	2,603,285	740,319	149,574	130,450,782
2019	95,812,203	17,741,719	17,551,290	2,689,727	780,153	155,399	134,730,491
2020	103,350,676	16,949,068	16,527,134	2,755,741	809,152	154,291	140,546,062
2021	105,428,719	17,601,881	17,162,103	2,754,062	795,414	156,229	143,898,408
2022	105,287,929	18,832,023	18,050,376	2,823,892	803,004	184,832	145,982,055
2023 Bridge	106,350,197	18,852,905	18,547,588	2,780,775	811,353	207,020	147,549,838
2024 Test	108,847,740	19,131,278	18,621,416	2,791,843	820,413	215,972	150,428,663

2

3 Table 3.3 shows the summary of the historical and forecasted number of customers/connections by
 4 rate class.

1 **Table 3.3: Number of Customers/Connections (Average)**

Customer Count/Customer Connections							
Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load	Total
2016 Board Approved	12,472	789	37	1	2,819	40	16,158
2013	11,857	784	35	1	2,694	43	15,413
2014	12,082	783	36	1	2,738	41	15,681
2015	12,258	785	37	1	2,835	41	15,956
2016	12,427	796	36	1	2,948	37	16,244
2017	12,621	813	35	1	3,013	33	16,515
2018	12,838	819	34	1	3,037	35	16,763
2019	13,036	827	34	1	3,078	35	17,010
2020	13,263	833	34	1	3,111	35	17,277
2021	13,508	831	34	1	3,132	36	17,541
2022	13,800	840	35	1	3,178	41	17,894
2023	14,154	852	36	1	3,211	46	18,300
2024	14,408	858	36	1	3,245	48	18,596

2
 3 The total customers and connections provided in the tables above are annual averages calculated by
 4 adding the beginning counts as of January 1 and the ending counts as of December 31 and then
 5 dividing them in half.

6
 7 **2.3.1.1 Forecast Methodology – Multivariate Regression Model**

8 WDI’s weather-normalized load forecast is developed based on a multivariate regression model that
 9 incorporates historical load, weather, and other variables that impact electricity usage determined by
 10 wholesale energy purchases.

11
 12 **2.3.1.1.1 Overview of Wholesale Purchases**

13 WDI purchases its power from the IESO. Table 3.4 outlines the unadjusted monthly wholesale
 14 purchases:



1 **Table 3.4: Unadjusted Wholesale Purchases 2013-2022 (kWh)**

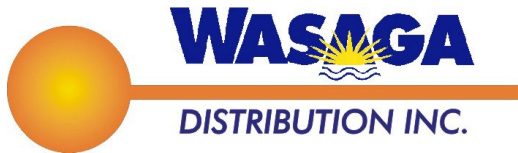
Month	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Jan	12,427,125	14,009,823	13,995,263	12,730,346	12,229,219	13,615,938	13,900,953	13,108,025	14,127,144	15,856,086
Feb	11,414,727	12,185,867	13,170,058	11,705,579	10,687,297	11,305,661	12,089,794	12,246,829	13,322,300	13,630,052
Mar	11,410,610	12,555,380	11,998,087	11,115,961	11,665,956	11,582,098	12,234,305	11,915,050	12,551,974	13,339,493
Apr	9,843,369	10,082,469	9,783,027	10,054,141	9,357,837	10,730,510	10,423,342	10,832,586	10,695,600	11,179,449
May	9,607,316	9,562,256	9,852,639	9,815,291	9,739,335	9,875,377	10,124,014	10,843,267	10,920,120	11,155,592
Jun	10,146,123	9,968,997	9,493,090	10,031,359	9,985,792	10,350,681	9,963,808	11,408,378	12,524,915	11,493,285
Jul	12,627,370	11,153,255	12,323,498	13,224,478	12,043,306	13,689,625	13,911,423	15,505,390	13,320,917	13,900,905
Aug	11,481,798	11,362,434	11,878,051	13,591,515	11,325,611	13,621,544	12,353,864	13,862,182	15,442,610	14,218,400
Sept	9,549,656	9,514,381	10,579,920	9,965,585	9,819,996	10,918,384	9,705,119	10,501,257	10,775,918	11,324,280
Oct	9,762,325	9,761,647	9,909,152	9,614,905	9,479,144	10,483,324	10,144,367	10,967,477	10,796,234	10,976,851
Nov	11,051,534	11,117,967	9,955,156	9,822,633	10,779,432	11,365,096	11,757,131	11,227,626	11,778,395	11,621,738
Dec	13,539,377	12,637,824	11,330,103	12,397,998	13,284,790	12,814,047	13,295,537	13,826,834	13,705,375	14,136,095
Total	132,861,330	133,912,300	134,268,044	134,069,791	130,397,715	140,352,284	139,903,658	146,244,902	149,961,502	152,832,226

2
 3
 4 WDI's usage has increased over the past ten years, with wholesale purchases increasing by
 5 approximately 15% from 2013 to 2022. This increase is mainly due to the increase in new
 6 development in WDI's service territory.

7
 8 To better represent the trend in wholesale purchases, WDI has adjusted its actual wholesale
 9 purchases prior to running the regression analysis. The purpose of the adjustment was to normalize
 10 the data as best as possible. The following adjustments were made to the wholesale purchases:

- 11 • WDI adjusted the wholesale purchases to add back generation facilities generation.
- 12 • WDI adjusted the wholesale purchases to add in a GS>50 kW customer that is a Wholesale
 13 Market participant.
 14

15
 16 The adjusted wholesale purchases are summarized in Table 3.5 as the adjusted wholesale purchased
 17 and used in the regression analysis.



1 **Table 3.5: Adjusted Wholesale Purchases 2013-2022**

Month	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Jan	12,714,599	14,291,884	14,263,801	12,986,489	12,460,558	13,845,456	14,136,861	13,330,651	14,331,626	16,083,247
Feb	11,674,145	12,438,081	13,411,681	11,954,300	10,899,195	11,528,218	12,314,382	12,482,508	13,507,752	13,855,295
Mar	11,709,868	12,842,498	12,285,355	11,407,427	11,922,989	11,940,053	12,555,744	12,243,994	12,900,974	13,662,707
Apr	10,142,114	10,372,953	10,075,220	10,309,941	9,658,215	11,069,383	10,775,086	11,212,187	11,078,741	11,554,161
May	9,944,563	9,883,793	10,186,851	10,173,590	10,119,389	10,354,365	10,527,884	11,297,028	11,382,215	11,604,071
Jun	10,492,367	10,305,409	9,831,339	10,399,524	10,393,658	10,827,407	10,423,009	11,927,943	13,001,289	11,952,636
Jul	13,000,235	11,509,366	12,693,894	13,608,563	12,493,313	14,215,421	14,446,557	16,040,655	13,790,124	14,394,844
Aug	11,850,428	11,729,092	12,237,311	13,978,739	11,747,163	14,096,456	12,855,525	14,348,155	15,936,675	14,700,502
Sept	9,883,580	9,836,509	10,936,790	10,295,920	10,202,947	11,319,185	10,088,058	10,895,830	11,174,161	11,710,891
Oct	10,078,690	10,060,379	10,220,442	9,905,173	9,806,024	10,779,937	10,474,745	11,276,151	11,120,261	11,314,902
Nov	11,328,604	11,386,049	10,239,310	10,076,327	11,021,437	11,584,828	11,994,609	11,495,935	12,031,205	11,880,522
Dec	13,833,200	12,911,220	11,611,383	12,631,435	13,509,706	13,032,879	13,533,101	14,052,794	13,944,168	14,368,318
Total	136,652,393	137,567,233	137,993,375	137,727,428	134,234,594	144,593,588	144,125,561	150,603,832	154,199,191	157,082,097

2
3
4 **2.3.1.1.2 Overview of Explanatory Variables Used**

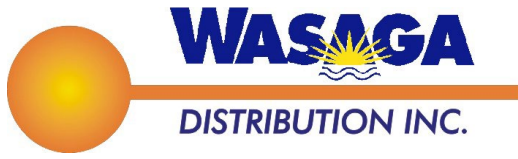
5 Consistent with WDI's 2016 COS, WDI has determined that the variation in monthly electricity
6 purchased is influenced by five main factors – weather (heating and cooling degree days); customer
7 growth (increases or decreases in customer count); seasonality (spring/fall flag factor), and the
8 number of days per month.

9
10 For the 2016 COS application, WDI used the CPI Index of Electricity relative to the overall CPI Index,
11 and linear trended to create an explanatory variable that looked to identify the impact increased pricing
12 has on power purchased. This was not considered for this application.

13
14 Each explanatory variable used is discussed below as well as others that we considered but not used
15 and summarized in Table 3.6.

16
17 **Table 3.6: Load Forecast Variables Used and Considered**

Factor	Used/Not Used	Comments
Customer count	Used	Used in 2016
Weather	Used	Used in 2016
Days per month	Used	Used in 2016
Spring/fall flag	Used	Used in 2016
CPI Index Ontario	Not used	Impact considered insignificant
CDM	Not used	Impact considered built into power purchased
Pandemic	Not used	Impact considered insignificant
DERs	Not used	Impact considered insignificant



1 **Heating and Cooling:**

2 To determine the relationship between observed weather and energy consumption, monthly weather
3 observations describing the extent of heating or cooling required within the month are necessary.
4 Environment Canada publishes monthly observations on heating degree days (HDD) and cooling
5 degree days (CDD) for selected weather stations across Canada. Heating degree days for a given
6 day are the number of Celsius degrees that the mean temperature is below 18°C. Cooling degree
7 days for a given day are the number of Celsius degrees that the mean temperature is above 18°C.
8 For WDI the monthly HDD and CDD as reported at Collingwood, Ontario was used.

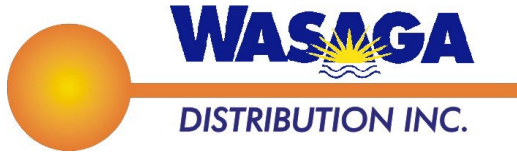
9
10 WDI has adopted the ten-year average from 2013 to 2022, to forecast 2023 and 2024, as the definition
11 of weather normal. The view is that a ten-year average based on the most recent ten calendar years
12 available is a reasonable compromise that likely reflects the “average” weather experienced in recent
13 years and is to be expected in the near-term.

14
15 **Spring and Fall Flag:**

16 WDI used a spring and fall flag. This utility-specific flag was created following the analysis of the
17 wholesale purchases which showed lower purchases during the spring and fall seasons. The
18 assumption is that consumers are not using as much electricity to heat or cool their homes, and as
19 such would have an impact on wholesale purchases. The variable applies to the months of March,
20 April, May, September, October, and November.

21
22 **Customer Count/Number of Customers:**

23 WDI used a customer count variable. This utility-specific variable was used to address the increase
24 in wholesale purchases that has resulted from the growth in WDI’s customer base. WDI load mix
25 consists of ~65% of usage coming from the residential customer class and ~10% from the GS<50
26 customer class. Since WDI does not have a significant load attributed to large industrial or large
27 commercial customers, this variable shows a trend that is minimally skewed from the addition or
28 subtraction of large users and helps in explaining wholesale purchase variation.



1 **Days per Month:**

2 WDI used a “days per month” variable. Although the variable did not particularly change the results,
 3 it did improve the R-Square and therefore WDI opted to keep it as a variable.

4 The origin of variables is as follows:

5

- 6 • HDD: Environment Canada Website
- 7 • CDD: Environment Canada Website
- 8 • Spring Fall Flag: Computed by WDI
- 9 • Customer count: Computed by WDI
- 10 • Day per Month: Computed by WDI

11

12 The monthly data used in the regression analysis are provided in Appendix 3 (C).

13

14 **2.3.1.1.3 Multivariate Regression Results**

15 Table 3.7 below presents the regression results used to determine the load forecast.

16

17

Table 3.7 Regression Results

<i>Regression Statistics</i>	
Multiple R	0.966021793
R Square	0.933198105
Adjusted R Square	0.930268197
Standard Error	408475.8159
Observations	120

ANOVA				
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression	5	2.65719E+14	5.31438E+13	318.5076825
Residual	114	1.90212E+13	1.66852E+11	
Total	119	2.8474E+14		

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	-15737489.24	1635031.32	-9.625191298	2.0801E-16
Customer Count	919.069681	59.09805349	15.55160664	5.96808E-30
Spring Fall Flag	-860334.0831	92843.79877	-9.266467922	1.42048E-15
Days in Month	423331.0582	47202.55282	8.968393295	6.96392E-15
HDD	5760.749901	238.7345954	24.13035233	1.30539E-46
CDD	39266.00028	1967.150456	19.9608526	5.25105E-39

18

19



1 The resulting regression equation yields an adjusted R-squared of 93.3%. An R-squared of over 90%
2 indicates the regression analysis is statistically significant. In addition, the resulting regression
3 equation yields an adjusted R-squared of 93.0%.

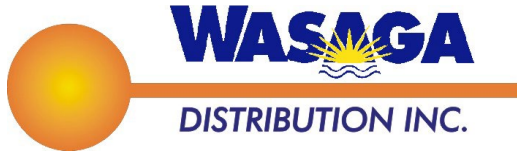
4
5 When actual annual wholesale values are compared to annual values predicted by the regression
6 equation; the mean absolute percentage error (MAPE) is 2.26%.

7
8 WDI uses the coefficient from the regression results (line of best fit) to calculate predicted purchases
9 and forecasted purchases. The resulting equation is:

10
11 WDI's Monthly Predicted kWh Purchases =
12 $-15,737,489.24 + 919.07 * \text{Customer Count} + 5,760.75 * \text{HDD} + 39,266.00 * \text{CDD} - 86,0334.08 * \text{Spring Fall Flag} + 423,331.06 * \text{Days in Month}$
13

14
15 The forecast in monthly data used in the regression model for 2023 and 2024 is provided in Appendix
16 3 (C).

17
18 Table 3.8 demonstrates the monthly results by year comparison between the actual and predicted
19 wholesale purchases from 2013 to 2022 on a weather-normal basis. Information is provided to show
20 the Weather Normal Conversion Factor which is used to calculate weather normalized actual data for
21 2013 to 2022. In Table 3.8, the Predicted Weather Normal values are similar to the Predicted amounts,
22 but the weather normalized heater degree days and cooling degree days used to determine the
23 weather normal forecast for 2023 and 2024 are used in the prediction formula in place of actual
24 heating degree days and cooling degree days. The ratio of Predicted Weather Normal to Predicted
25 values results in a Weather Normal Conversion Factor. This factor is applied to the actual amount
26 which results in the Actual Weather Normal value.



1 **Table 3.8: Actual Purchased Compared to Predicted Purchases**

Year	Actual kWh Purchased	Predicted kWh	Purchased Versus Predicted	Predicted Weather Normal kWh	Weather Normal Conversion Factor	Actual Weather Normal
2013	136,652,393	133,029,221	2.65%	133,011,957	1.000	136,634,659
2014	137,567,233	134,035,276	2.57%	135,243,458	1.009	138,807,252
2015	137,993,375	137,810,831	0.13%	137,581,572	.998	137,763,812
2016	137,727,428	140,510,561	2.02%	139,761,245	.995	136,992,953
2017	134,234,594	145,115,867	8.11%	146,284,242	1.008	135,315,361
2018	144,593,588	148,650,122	2.81%	144,466,323	0.972	140,523,961
2019	144,125,561	145,115,867	0.69%	146,284,242	1.008	145,285,963
2020	150,603,832	150,850,312	0.16%	152,001,418	1.008	151,753,181
2021	154,199,191	150,962,375	2.10%	151,801,418	1.006	155,056,224
2022	157,082,097	154,882,581	1.40%	154,993,347	1.001	157,194,436
2023 Bridge	159,325,739			159,325,739	1.000	159,325,739
2024 Test	162,434,322			162,434,322	1.000	162,434,322

2
 3 The weather normalized amount for 2024 is determined using 2024 dependent variables in the
 4 prediction formula on a monthly basis.



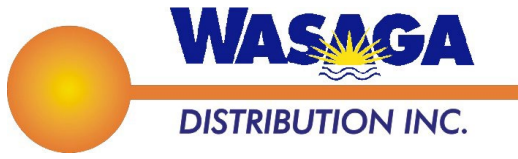
1 **2.3.1.2 Customer/Connection Forecast by Rate Class**

2 Historic customers/connections are presented in Table 3.9. Customer counts are presented as an
 3 average between January 1 and December 31 of the given year.

4
 5 **Table 3.9: Historical Customers/Connections (Average)**

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load	Total
2013	11,857	784	35	1	2,694	43	15,413
2014	12,082	783	36	1	2,738	41	15,681
2015	12,258	785	37	1	2,835	41	15,956
2016	12,427	796	36	1	2,948	37	16,244
2017	12,621	813	35	1	3,013	33	16,515
2018	12,838	819	34	1	3,037	35	16,763
2019	13,036	827	34	1	3,078	35	17,010
2020	13,263	833	34	1	3,111	35	17,277
2021	13,508	831	34	1	3,132	36	17,541
2022	13,800	840	35	1	3,178	41	17,894

6
 7 The growth rate in customers/connections is calculated from the average historic
 8 customer/connection data, which is provided in Table 3.10.



1

Table 3.10: Growth Rate in Customers/Connections (Average)

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load	Total
2013							
2014	1.9%	(0.1%)	2.9%	0.0%	1.7%	(3.5%)	1.7%
2015	1.5%	0.3%	2.8%	0.0%	3.5%	(1.2%)	1.8%
2016	1.4%	1.3%	(2.7%)	0.0%	4.0%	(9.9%)	1.8%
2017	1.6%	2.1%	(4.2%)	0.0%	2.2%	(9.6%)	1.7%
2018	1.7%	0.8%	(2.9%)	0.0%	0.8%	4.5%	1.5%
2019	1.5%	0.9%	1.5%	0.0%	1.4%	1.4%	1.5%
2020	1.7%	0.7%	0.0%	0.0%	1.1%	0.0%	1.6%
2021	1.8%	(0.2%)	(1.5%)	0.0%	0.7%	2.9%	1.5%
2022	2.2%	1.1%	3.0%	0.0%	1.5%	13.9%	2.0%
Geometric Mean – 5-Year	1.8%	0.67%	0.0%	0.0%	1.1%	4.4%	1.7%
Geometric Mean – 9 Year	1.7%	0.77%	(0.2%)	0.0%	1.85%	(0.4%)	1.7%

2

3 Residential Customers:

4 The residential customer class has been growing steadily over the last ten years. Growth rates, using
 5 average customers throughout the year, have increased in recent years to about 2% per year. WDI's
 6 2022 residential customer growth was 2.17% and for 2023, year-to-date new connections are up.
 7 However, new connection requests are down as of August 31, 2023. There is economic uncertainty,
 8 and the build-out rates of residential development remain unknown. The recent rise in interest rates
 9 and slowing market demands is an indication of slowing growth in the near term.

10

11 The 2023 bridge year forecast was updated to reflect data up to August 31, 2023, forecasted until
 12 December 31, 2023. The five-year Geometric Mean growth rate was used to calculate the 2024 Test
 13 year.



1 **GS < 50 kW Customers:**

2 WDI does not foresee significant growth within the GS<50 kW class for the 2024 Test year. It is
 3 assumed that as the town’s residential population continues to grow it is reasonable to conclude that
 4 GS < 50 kW class will grow as well, which would be consistent with past trends.

5
 6 The 2023 Bridge Year forecast was updated to reflect most recent year to data up to August 31, 2023,
 7 forecasted until December 31, 2023. The five-year geometric mean was used to calculate the 2024
 8 Test Year.

9
 10 **GS > 50 kW Customers:**

11 WDI has included in the forecast the addition of a new Twin Pad Arena/Library slated to open by the
 12 end of 2023. There is no new addition anticipated to this customer class for the 2024 Test Year.

13
 14 **Unmetered Scattered Load:**

15 The 2023 Bridge Year forecast was updated to reflect data up to August 31, 2023, forecasted until
 16 December 31, 2023. The five-year geometric mean growth rate was used to calculate the 2024 Test
 17 Year.

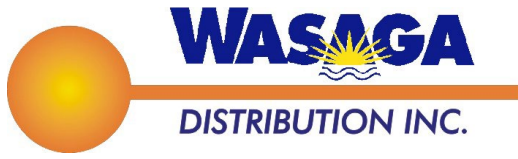
18
 19 **Streetlights:**

20 This customer class follows a similar methodology in applying growth as the residential customer
 21 class. The five-year geometric mean was used to calculate the 2023 Bridge Year and 2024 Test Year.
 22 Table 3.11 provides the customer/connection forecast used for the customer classes.

23
 24 **Table 3.11: Customer/Connection Forecast (Average)**

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load	Total
2023 Bridge	14,154	852	36	1	3,211	46	18,300
2024 Test	14,408	858	36	1	3,245	48	18,596

25



1 **2.3.1.3 Determination of Weather Normalized Forecast**

2 Allocation to specific weather-sensitive rate classes (Residential, GS<50, GS>50, WMP) is based on
3 the share of each class’s actual metered kWh and exclusive of distribution losses and a share of
4 actual wholesale kWh. Weather-normalized wholesale kWh, for historical years, are allocated to these
5 classes based on these historical shares.

6
7 **Calculation of Average Consumption per Rate Class for 2023 Bridge and 2024 Test Year:**
8 WDI has applied a % of change, using the geometric mean based on the average metered kWh per
9 customer class to determine the 2023 and 2024 average forecasted consumption per customer prior
10 to weather normalization. For each class, WDI used:

- 11
- 12 • A 9-year geometric mean for the Residential Class
 - 13 • A 9-year geometric mean for the GS<50 kW Cass
 - 14 • A 9-year geometric mean for the GS>50 kW Class, and applied to the GS>50 kW - WMP
 - 15 • A 5-year geometric mean for the Street Lighting Class
 - 16 • A 5-year geometric mean for the Unmetered Scattered Load Class

17
18 Different years were used based on the accuracy of the data available.

19
20 Table 3.12 provides the actual annual usage per customer/connection for the years 2013-2022.



1

Table 3.12: Actual Annual Usage per Customer/Connection

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load
2013	7,276	20,960	505,479	3,594,883	667	6,225
2014	7,251	21,140	480,873	3,453,199	670	6,110
2015	7,181	21,423	482,062	3,423,047	639	6,388
2016	7,206	21,392	472,994	3,180,756	316	5,031
2017	6,960	20,928	477,534	2,803,203	252	4,506
2018	7,470	21,570	509,581	2,678,677	251	4,461
2019	7,291	21,295	509,419	2,668,244	251	4,404
2020	7,733	20,205	482,411	2,734,870	258	4,375
2021	7,762	21,064	509,470	2,738,840	253	4,316
2022	7,624	22,403	522,825	2,821,873	253	4,505

2

3 The growth rate of the annual usage per customer/connection is calculated from the actual annual
 4 usage per customer/connection, which is provided in Table 3.13.



1 **Table 3.13: Actual Growth Rate in Annual Usage per Customer/Connection**

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load
2013						
2014	99.66%	100.86%	95.13%	96.06%	100.48%	98.15%
2015	99.03%	101.34%	100.25%	99.13%	95.35%	104.56%
2016	100.34%	99.86%	98.12%	92.92%	49.51%	78.76%
2017	96.59%	97.83%	100.96%	88.13%	79.60%	89.57%
2018	107.33%	102.97%	106.71%	95.56%	99.62%	98.99%
2019	97.61%	98.85%	99.97%	99.59%	100.24%	98.73%
2020	106.06%	94.85%	94.70%	102.52%	102.64%	99.34%
2021	100.37%	104.25%	105.61%	100.15%	97.84%	98.65%
2022	98.22%	106.35%	102.62%	103.03%	99.99%	104.38%
Geometric Mean – 5-Year	101.84%	101.37%	101.83%	100.13%	100.06%	99.98%
Geometric Mean – 9 Year	100.52%	100.74%	100.38%	97.35%	89.77%	96.46%

2
 3 The forecasted annual kWh per customer per customer/connection is calculated using the geometric
 4 mean and multiplied by the 2022 actual usage per customer/connection, illustrated in Table 3.18.

5
 6 **Table 3.14: Forecast Annual kWh Usage per Customer/Connection**

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load
2023 Bridge	7,514	22,128	515,211	2,780,775	253	4,500
2024 Test	7,555	22,298	517,262	2,791,843	253	4,499

7
 8 **Calculation of Non-Normalized Weather Billed Consumption Forecast:**
 9 The preceding information is used to determine the non-normalized weather billed energy forecast by
 10 applying the forecast number of customer/connection from Table 3.15 to the forecast of annual usage
 11 per customer/connection from Table 3.14. The resulting non-normalized weather billed energy
 12 forecast is shown in Table 3.15.



1 **Table 3.15: Non-Normalized Weather Billed Consumption (GWh)**

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load
2023 Bridge	108.5	19.2	18.9	2.8	0.8	0.2
2024 Test	111.0	19.5	19.0	2.8	0.8	0.2

2
 3 **Calculation of Weather Corrected Billed Consumption:**

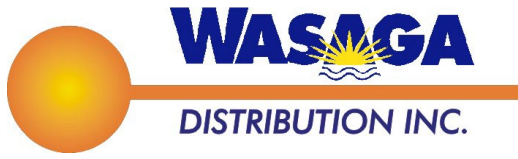
4 The total weather-corrected billed kWh is calculated from the predicted/forecasted wholesale
 5 purchase calculated from the line of best fit as determined by the regression analysis and presented
 6 earlier in this exhibit and divided by the proposed loss factor of 7.98% as presented in Exhibit 8 of this
 7 application. Total predicted/forecasted wholesale purchases calculated for the 2023 Bridge Year and
 8 2024 Test Year are 159,325,739 kWh, and 162,434,322 kWh (using ten-year average HDD and CDD),
 9 respectively. The total weather-corrected billed kWh for the 2023 Bridge Year and 2024 Test Year
 10 are 147,549,838 kWh and 150,428,663 kWh, respectively.

11
 12 **Calculation of Weather Corrected Billed Consumption by Rate Class:**

13 The difference between non-weather normalized and weather-normalized forecasts is assumed to be
 14 the amount related to moving the forecast to a weather-normal basis. WDI used the weather
 15 normalization work completed by Hydro One Networks Inc. (HONI) for 2004 informing the original cost
 16 allocation information study it was determined that the weather sensitivity by rate class is as presented
 17 in Table 3.16. It is noted the Residential and GS <50 kW classes are not 100% weather sensitive.
 18 WDI has, thus, applied a weather sensitivity factor of 93.7%, which is the mid-point between the 100%
 19 HONI reported for these two classes and the GS >50 kW sensitivity factor of 87.4%. The values in
 20 the table are consistent with the rate class weather sensitivity percentages used in WDI's 2016 COS
 21 application.

22
 23 **Table 3.16: Weather Sensitivity by Rate Class**

Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load
93.7%	93.7%	87.4%	87.4%	0%	0%



1 The difference between the non-normalized and normalized forecast has been assigned on a pro-rata
 2 basis to each rate class based on the above level of weather sensitivity. The following Table 3.17
 3 outlines how the classes have been adjusted to align the non-normalized forecast with the normalized
 4 forecast.

5 **Table 3.17: Alignment of Non-Normal to Weather Normal Forecast**

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load	Total
Non-normalized Billed Energy Forecast (gWh)							
2023 Bridge	108.5	19.2	18.9	2.8	0.8	0.2	150.5
2024 Test	111.0	19.5	19.0	2.8	0.8	0.2	153.3
Weather Adjustment (gWh)							
2023 Bridge	(2.2)	(0.4)	(0.4)	(0.1)	0	0	(3.1)
2024 Test	(2.2)	(0.4)	(0.4)	(0.1)	0	0	(3.1)
Weather Normalized Billed Energy Forecast (gWh)							
2023 Bridge	106.3	18.8	18.5	2.8	0.8	0.2	147.5
2024 Test	108.8	19.1	18.6	2.8	0.8	0.2	150.3

6
 7 **2.3.1.4 Demand Billed kW Load Forecast**
 8 There are a number of WDI customers/connections that are charged volumetric distribution on a per
 9 kW basis.

10
 11 For the GS > 50 kW, WMP, and Streetlight rate classes, the energy forecast needs to be converted
 12 to a kW basis for rate-setting purposes. To accomplish this conversion, the 2023 and 2024 forecast
 13 of usage per customer/connection have been held constant as the 2022 level since the GS > 50 kW
 14 has generally been declining and the most recent five-year averages for the other classes are similar
 15 to the 2022 levels.

16
 17 Table 3.18 outlines the 2022 actual ratio of kW to kWh for each applicable rate class.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

Table 3.18: 2022 Actual kW/kWh Ratio per Applicable Rate Class

General Service > 50 kW	General Service > 50 kW - WMP	Street Lights
0.200%	0.250%	0.296%

Table 3.23 outlines the forecast of kW for the applicable rate classes which reflect the ratio in Table 3.18 being applied to the results in Table 3.19.

Table 3.19: kW Forecast per Applicable Rate Class

Year	General Service > 50 kW	General Service > 50 kW WMP	Streetlights	Total
2023 Bridge	46,294	5,575	2,398	54,267
2024 Test	46,478	5,597	2,424	54,499

2.3.1.5 Incorporating CDM Impacts in the Load Forecast

There are no ongoing Conservation and Demand Management (CDM) projects in the Town of Wasaga Beach that WDI is aware of. WDI has made the decision to not include CDM activities in its load forecast, as it is WDI’s position that this best incorporates the historical and forecast impacts of CDM into its load forecast. This approach was taken as the OEB has provided guidance to distributors and stated that the: “OEB provides flexibility for distributors to determine their general approach and methodology in load forecasting, which is a key input in establishing operating revenues and distribution rates” (Conservation and Demand Management Guidelines for Electricity Distributors, EB-2021-0106).

In WDI’s 2016 COS application forecasting CDM activities were impactful as there was a clear trend, over time of decreasing consumption per customer. The CDM activities assisted in explaining this variance. Since 2016, this trend has been not as clear.

Any adjustment to CDM activities for the purpose of establishing distribution rates would be insignificant since ~87% of WDI’s revenue is derived from fixed rates. In fact, separately identifying the CDM activities may need to be offset by other variables that have an offsetting impact on



- 1 explaining the variance in the power purchased. i.e., electrification, hybrid workplace arrangements,
- 2 building and consumption characteristics of new facilities relative to existing facilities, backyard
- 3 makeovers, economic impacts, etc. For WDI to accurately gather this data, identify unique explanatory
- 4 variables and use those variables to appropriately forecast the impacts in the forecast years would be
- 5 costly, assumption-based and would not materially impact the forecast.

1 **2.3.1.6 Summary of Load Forecast**

2 Table 3.20 below presents a summary of the load forecast on a billing determinant basis by rate class.

3

4

Table 3.20: Summary of Load Forecast

		2016	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023	2024 Test
Actual kWh Purchases		137,727,428	137,727,428	134,234,594	144,593,588	144,125,561	150,603,832	154,199,191	157,082,097		
Predicted kWh		137,315,437	140,510,561	145,115,867	148,650,122	145,115,867	150,850,312	150,962,375	154,882,581	159,325,739	162,434,322
% Difference		(0.3%)	2.0%	8.1%	2.8%	0.7%	0.2%	(2.1%)	(1.4%)		
Loss Factor		1.0802	1.0790	1.0756	1.0792	1.0803	1.0817	1.0794	1.0786	1.0798	1.0798
Total Billed		127,120,383	127,885,499	125,028,584	134,228,686	133,654,396	139,481,594	143,103,047	145,877,729	147,549,838	150,428,663
Residential	Customer	12,472	12,427	12,621	12,838	13,036	13,263	13,508	13,800	14,154	14,408
	kWh	88,424,733	89,543,529	87,839,401	95,897,147	95,046,949	102,567,918	104,845,989	105,212,685	106,350,197	108,847,740
General Service <50 kW	Customers	789	796	813	819	827	833	831	840	852	858
	kWh	17,097,027	17,017,151	17,003,638	17,649,068	17,605,723	16,820,699	17,504,591	18,818,565	18,852,905	19,131,278
General Service >50 kW	Customers	37	36	35	34	34	34	34	35	36	36
	kWh	17,434,185	17,027,791	16,474,910	17,070,974	17,411,107	16,401,961	17,067,244	18,037,476	18,547,588	18,621,416
	kW	45,911	45,180	43,086	45,853	43,653	42,051	43,572	45,021	46,294	46,478
WMP	Customers	1	1	1	1	1	1	1	1	1	1
	kWh	3,332,217	3,180,756	2,803,203	2,678,677	2,668,244	2,734,870	2,738,840	2,821,873	2,780,775	2,791,843
	kW	5,857	5,923	5,557	5,395	5,192	5,526	5,292	5,658	5,575	5,597
Streetlights	Connections	2,819	1	1	1	1	1	1	1	1	1
	kWh	611,199	932,624	758,718	761,759	773,922	803,024	791,08	802,430	811,353	820,413
	kW	1,802	2,933	2,242	2,248	2,287	2,328	2,338	2,371	2,398	2,424
Unmetered Scattered Load	Connections	40	37	33	35	35	35	36	41	46	48
	kWh	221,022	183,648	148,714	153,906	154,158	153,122	155,365	184,700	207,020	215,972
Total	Cust/Conne	16,158	16,244	16,515	16,763	17,010	17,277	17,541	17,894	18,300	18,596
	kWh	127,120,383	127,885,499	125,028,584	134,228,686	133,654,396	139,481,594	143,103,047	145,877,729	147,549,838	150,428,663
	kW	53,569	54,035	50,886	53,525	51,204	50,382	51,202	53,050	54,267	54,500

5



1 **2.3.2 Accuracy of Load Forecast and Variance Analysis**

2 WDI has submitted OEB Appendix 2-IB Load Forecast Analysis in a separate Microsoft Excel
 3 document. For reference, Appendix 2-IB Load Forecast Analysis has been included in Appendix 3
 4 (B).

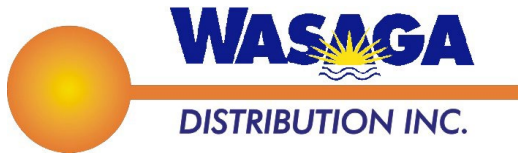
6 **Customer/Connection Counts**

7 The customer and connection counts are used in determining the forecasts and were discussed earlier
 8 in this exhibit. Table 3.21 Year-End Customer/Connection Count with Forecast and Table 3.22
 9 Growth Rate in Year-End Customer/Connection Count with Forecast have been provided to show the
 10 yearly change in the average customer/connection count by class.

12 **Table 3.21 Year-End Customer/Connection Count with Forecast**

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load	Total
2016 Board Approved	12,575	791	37	1	2,855	40	16,299
2016	12,504	806	35	1	2,997	32	16,375
2017	12,738	819	34	1	3,029	34	16,655
2018	12,938	819	33	1	3,044	35	16,870
2019	13,133	834	35	1	3,108	35	17,146
2020	13,372	833	32	1	3,111	35	17,384
2021	13,622	832	33	1	3,153	37	17,678
2022	13,978	849	35	1	3,202	45	18,110
2023 Bridge	14,330	855	36	1	3,211	47	18,480
2024 Test	14,485	860	36	1	3,245	49	18,676

13



1 **Table 3.22 Year-End Variance (%) in Customer/Connection Count with Forecast**

Year	Residential	General Service <50 kW	General Service > 50 kW	General Service > 50 kW - WMP	Street lights	Unmetered Scattered Load	Total
2016 Board Approved							
2016	(0.6%)	1.9%	(5.4%)	0.0%	5.0%	(20.0%)	0.5%
2017	1.9%	1.6%	(2.9%)	0.0%	1.1%	6.3%	1.7%
2018	1.6%	0.0%	(2.9%)	0.0%	0.5%	2.9%	1.3%
2019	1.5%	1.8%	(6.1%)	0.0%	2.1%	0.0%	1.6%
2020	1.8%	(0.1%)	(8.6%)	0.0%	0.1%	0.0%	1.4%
2021	1.9%	(0.1%)	3.1%	0.0%	1.4%	5.7%	1.7%
2022	2.6%	2.0%	6.1%	0.0%	1.6%	21.6%	2.4%
2023 Bridge	2.5%	0.7%	2.9%	0.0%	0.3%	4.4%	2.0%
2024 Test	1.1%	0.6%	0.0%	0.0%	1.1%	4.3%	1.1%

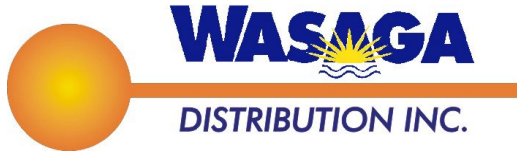
2
 3 WDI service territory has experienced consistent growth since 2016. As a community within close
 4 proximity of the Greater Toronto Area that offers a variety of outdoor recreation activities, and
 5 relatively affordable detached housing, there continues to be demand for living in Wasaga Beach.
 6 WDI's submits that its forecast for customers and connections are appropriate. A similar approach was
 7 forecasted and approved during WDI's 2016 COS.

8
 9 The difference between 2016 Board Approved and 2016 Actual is as follows:

- 10
 11
- 12 • **Unmetered Scattered Load:** In WDI's 2016 COS, WDI overwrote the model projections and
 13 forecasted no growth in this customer class. WDI did not foresee a contraction in the customer
 class at that time.
 - 14 • **Street Lights:** The Town of Wasaga Beach converted all Street Lights with LED technology.
 15 WDI updated its system based on the information received from this conversion. At the time
 16 of WDI's 2016 COS, the best information available at that time was used. Since 2016, WDI
 17 has received an annual database on all streetlights with Geographical Information System
 18 (GIS) coordinates from the municipality and compares it against internal records to verify
 19 accuracy.



- 1 • **General Service < 50 kW:** In WDI’s 2016 COS, WDI forecasted customer growth using a five-
2 year geomean. This customer class had limited growth over that five-year period. In 2016, a
3 multi-unit commercial property was completed, and temporary services were connected for
4 developers. WDI did not foresee these new connections that that time.
- 5 • **Residential:** In WDI’s 2016 COS, WDI deviated from the historical growth rates with the
6 following explanation:
7
- 8 “The residential customer class has been increasing steadily during the last 10 years. Growth
9 rates, using average customers throughout the year, have declined in recent years to about
10 2% per year over the last 5 years. However, WDI’s 2014 residential customer growth was
11 1.38% and for 2015 year to date new construction service orders as of August 20th, 2015, are
12 slightly over 100 service orders well below the orders necessary to maintain a 2% growth.
13 Additionally, there is currently a large troubled residential development that may be an
14 indication of slowing growth. Therefore, WDI has revised the growth rate to 1.5% to reflect
15 the growth rates that WDI is experiencing and is expected to experience for the 2016 Test
16 Year. The Town of Wasaga Beach attracts seasonal, retirement, and young families alike and
17 there is no foreseeable change in that regard. “
- 18
- 19 WDI overestimated the residential customer growth rate in 2016.
- 20
- 21 WDI has similarly deviated from the historical growth rates for the Bridge Year and adjusted the
22 forecast as described earlier in this Exhibit.
- 23
- 24 WDI continues to plan for growth; however, there is economic uncertainty. Housing market activity
25 will largely reflect economic conditions and population growth. Higher mortgage rates are expected
26 during the forecast year and will underpin housing sales. Housing sales are forecast to slide lower
27 while the average sale price holds near current levels at the current rates to finance. A decline in the
28 short-term for new housing construction appears to be a realistic possibility. There is a risk that WDI
29 has overestimated the 2024 forecast for residential customers.
- 30
- 31 GS<50 kW customer class continues to grow at a rate slower than the residential customer class.



1 WDI is projecting customer numbers to increase (growth) unmetered scattered load (USL) class
 2 (connections) and street light class (connections). The growth in the USL account is related to the
 3 temporary accounts for new developments (i.e., streetlights, security systems, etc.).

4
 5 The utility projects virtually no change GS > 50 kW class.

6
 7 In summary, and similar to historical trends WDI expects an increase in all customer classes for the
 8 Bridge and Test Years. The current growth plans for the municipality indicate significant growth within
 9 WDI’s service territory. Although presales from COVID have driven up growth rates over the last
 10 couple of years there is current economic uncertainty and a significant decline in new home sales.
 11 The current forecasted growth in the customer counts is expected to return to historical levels, if not
 12 lower for the 2024 Test Year.

13
 14 **Customer/Connection Consumption and Demand:**

15 Historical consumption and demand are used to support the forecast for accuracy. Table 3.23 Year-
 16 actual consumption and demand with forecast by rate class is summarized, with the variance analysis
 17 in % provided in Table 3.24.

18
 19 **Table 3.23 Consumption and Demand by Rate Class**

Year	Residential	General Service < 50 kW	General Service > 50 kW		General Service > 50 kW - WMP		Street Lights		Unmetered Scattered Load	Total	
	kWh	kWh	kWh	kW	kWh	kW	kWh	kW	kWh	kWh	kW
2016 Approved	88,424,733	17,097,027	17,434,185	45,911	3,332,217	5,857	611,199	1,802	221,022	127,120,383	53,570
2016	89,543,529	17,017,151	17,027,791	45,180	3,180,756	5,923	932,624	2,933	183,648	127,885,499	54,035
2017	87,839,401	17,003,638	16,474,910	43,086	2,803,203	5,557	758,718	2,242	148,714	125,028,584	50,885
2018	95,897,147	17,666,223	17,070,974	45,883	2,678,677	5,395	761,759	2,248	153,906	134,228,686	53,526
2019	95,046,949	17,600,016	17,411,107	43,726	2,668,244	5,192	773,922	2,287	154,158	133,654,396	51,205
2020	102,567,918	16,820,699	16,401,961	42,528	2,734,870	5,526	803,024	2,328	153,122	139,481,594	50,382
2021	104,845,989	17,504,591	17,067,244	43,572	2,738,840	5,292	791,018	2,338	155,365	143,103,047	51,202
2022	105,212,685	18,818,565	18,037,476	45,021	2,821,873	5,658	802,430	2,371	184,559	145,877,588	53,050
2023 Bridge	106,350,197	18,852,905	18,547,588	46,294	2,780,775	5,575	811,353	2,398	207,020	147,549,838	54,267
2024 Test	108,847,740	19,131,278	18,621,416	46,478	2,791,843	5,597	820,413	2,424	215,972	150,428,663	54,500

1 **Table 3.24 Consumption and Demand Variance Analysis (%)**

Year	Residential	General Service < 50 kW	General Service > 50 kW		General Service > 50 kW - WMP		Street Lights		Unmetered Scattered Load	Total	
	kWh	kWh	kWh	kW	kWh	kW	kWh	kW	kWh	kWh	kW
2016	1.3%	(0.5%)	(2.3%)	(1.6%)	(4.5%)	1.1%	52.6%	62.8%	(16.9%)	0.6%	0.9%
2017	(1.9%)	(0.1%)	(3.2%)	(4.6%)	(11.9%)	(6.2%)	(18.6%)	(23.5%)	(19.0%)	(2.2%)	(5.8%)
2018	9.2%	3.9%	3.6%	6.5%	(4.4%)	(2.9%)	0.4%	0.2%	3.5%	7.4%	5.2%
2019	(0.9%)	(0.4%)	2.0%	(4.7%)	(0.4%)	(3.8%)	1.6%	1.7%	0.2%	(0.4%)	(4.3%)
2020	7.9%	(4.4%)	(5.8%)	(2.7%)	2.5%	6.4%	3.8%	1.8%	(0.7%)	4.4%	(1.6%)
2021	2.2%	4.1%	4.1%	2.5%	0.1%	(4.2%)	(1.5%)	0.4%	1.5%	2.6%	1.6%
2022	0.3%	7.5%	5.7%	3.3%	3.0%	6.9%	1.4%	1.4%	18.9%	1.9%	3.6%
2023 Bridge	1.1%	0.2%	2.8%	2.8%	(1.5%)	(1.5%)	1.1%	1.1%	12.1%	1.1%	2.3%
2024 Test	2.3%	1.5%	0.4%	0.4%	0.4%	0.4%	1.1%	1.1%	4.3%	2.0%	0.4%

2
3 Table 3.25 weather normalized consumption and demand with forecast by rate class is summarized,
4 with the variance analysis in % provided in Table 3.26.

5
6 **Table 3.25 Consumption and Demand by Rate Class (Weather Normalized)**

Year	Residential	General Service < 50 kW	General Service > 50 kW		General Service > 50 kW - WMP		Street Lights		Unmetered Scattered Load	Total	
	kWh	kWh	kWh	kW	kWh	kW	kWh	kW	kWh	kWh	kW
2016 Approved	88,424,733	17,097,027	17,434,185	45,911	3,332,217	5,857	611,199	1,802	221,022	127,120,383	53,570
2016	89,095,811	16,932,065	16,942,652	44,954	3,164,852	5,893	927,961	2,918	182,730	127,246,072	53,766
2017	88,542,116	17,139,667	16,606,709	43,431	2,825,629	5,601	764,788	2,260	149,904	126,028,813	51,292
2018	93,212,027	17,171,569	16,592,987	44,598	2,603,674	5,244	740,430	2,185	149,597	130,470,283	52,027
2019	95,807,325	17,470,816	17,550,396	44,076	2,689,590	5,234	780,113	2,305	155,391	134,723,631	51,615
2020	103,388,461	16,955,265	16,533,177	42,868	2,756,749	5,570	809,448	2,347	154,347	140,597,447	50,785
2021	105,475,065	17,609,619	17,169,647	43,833	2,755,273	5,324	795,764	2,352	156,297	143,961,665	51,509
2022	105,317,898	18,837,384	18,055,513	45,066	2,824,695	5,664	803,232	2,373	184,744	146,023,466	53,103
2023 Bridge	106,350,197	18,852,905	18,547,588	46,294	2,780,775	5,575	811,353	2,398	207,020	147,549,838	54,267
2024 Test	108,847,740	19,131,278	18,621,416	46,478	2,791,843	5,597	820,413	2,424	215,972	150,428,663	54,499



1 **Table 3.26 Consumption and Demand (Weather Normalized) Variance Analysis (%)**

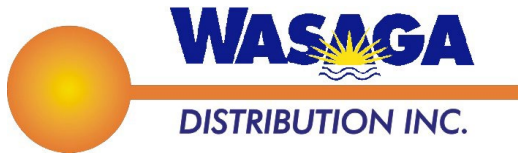
Year	Residential	General Service < 50 kW	General Service > 50 kW		General Service > 50 kW - WMP		Street Lights		Unmetered Scattered Load	Total	
	kWh	kWh	kWh	kW	kWh	kW	kWh	kW	kWh	kWh	kW
2016 Approved											
2016	0.8%	(1.0%)	(2.8%)	(2.1%)	(5.0%)	0.6%	51.8%	61.9%	(17.3%)	0.1%	0.4%
2017	(0.6%)	1.3%	(2.0%)	(3.4%)	(10.7%)	(5.0%)	(17.6%)	(22.6%)	(18.0%)	(1.0%)	(4.6%)
2018	5.3%	0.2%	(0.1%)	2.7%	(7.9%)	(6.4%)	(3.2%)	(3.3%)	(0.2%)	3.5%	1.4%
2019	2.8%	3.3%	5.8%	(1.2%)	3.3%	(0.2%)	5.4%	5.4%	3.9%	3.3%	(0.8%)
2020	7.9%	(4.4%)	(5.8%)	(2.7%)	2.5%	6.4%	3.8%	1.8%	(0.7%)	4.4%	(1.6%)
2021	2.0%	3.9%	3.8%	2.3%	(0.1%)	(4.4%)	(1.7%)	0.2%	1.3%	2.4%	1.4%
2022	(0.1%)	7.0%	5.2%	2.8%	2.5%	6.4%	0.9%	0.9%	18.3%	1.4%	3.1%
2023 Bridge	1.0%	0.1%	2.7%	2.7%	(1.6%)	(1.6%)	1.0%	1.0%	12.1%	1.0%	2.2%
2024 Test	2.3%	1.5%	0.4%	0.4%	0.4%	0.4%	1.1%	1.1%	4.3%	2.0%	0.4%

2
 3 WDI submits that its forecast for consumption and demand is appropriate. There are unique factors
 4 pertaining to WDI that make it challenging to predict fluctuations in consumption and demand from
 5 the available historical data. This would include, and not be inclusive of the following:

- 6
 7
- 8 • Impacts from tourism, specifically from the July and August months and more specifically,
 9 weekend/long-weekend weather conditions. HDD and CDD monthly data are not specific
 enough to accurately address these impacts for WDI.
 - 10 • Impacts from COVID-19, this would include the increase in seasonal residents who decided
 11 to move to Wasaga Beach on a more permanent basis, the increase in full-time residents who
 12 were unable to travel south for the winter and the increase in residents who were able to work
 13 remote.

14
 15 For the purpose of forecasting, to isolate these impacts, gather data, identify unique explanatory
 16 variables and use those variables to appropriately forecast the impacts would not materially impact
 17 the forecast and add costs. This would not be beneficial to WDI’s customers.

18
 19 Approximately 87% of WDI revenue is generated from a fixed rate.



1 WDI's growth mainly drives the annual increase and forecast in consumption and demand and there
2 are no significant changes over time between historical actuals and historical weather normal. The
3 following is provided to assist in explaining some of the annual variances in consumption and demand:

- 4
- 5 • The Summer of 2018 was a particularly warm summer season, record consumption over the
6 long weekends was experienced. In fact, the Canada Day weekend heat wave was a record
7 last experienced over 50 years prior. This had a significant impact on the residential
8 consumption for the year.
- 9 • In 2020 there was an increase in residential consumption and a decrease in commercial
10 demand and consumption (excluding the WMP customer - a grocery store). It is assumed that
11 this is related to COVID-19 shut-downs.
- 12 • In 2021 there was an increase in residential consumption as it is assumed that this is a result
13 of the transition to remote/hybrid working conditions, hybrid learning environments, and travel
14 restrictions.
- 15 • In 2022, it is assumed that changes to remote/hybrid working conditions, and easing of travel
16 restrictions, offset the growth consumption from the increase in new services.

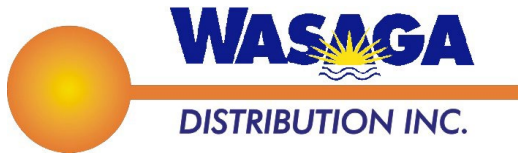
17

18 Comparing WDI's 2016 Board Approved to 2016 Actual, weather normalized total variance of 0.1%
19 for consumption and 0.4% for demand variance, is as follows:

- 20
- 21 • **Unmetered Scattered Load:** A decrease in customer base resulted in a decrease in customer
22 consumption.
- 23 • **Street Lights:** The municipality converted all Street Lights with LED technology. WDI updated
24 their records based on the information received from this conversion. The conversion was built
25 into the forecast to be completed by December of 2015, the conversion took longer to complete
26 and was not completed until July of 2016.
- 27 • **Residential:** Residential consumption can vary, CDM impact assumptions were built into the
28 forecast that were based on provincial assumptions.
- 29 • **General Service Customers:** The determination of weather normalized forecast used the
30 geomean average between 5-9 years to determine the % of change to forecasted annual kWh.
31 It might have been more appropriate to use the 2014 % change from 2013 average



1 kWh/customer. In addition, it seems the CDM impacts and assumptions built into the model
2 used did not fully capture impacts to peak-demand.
3
4 In summary, and similar to historical trends WDI expects an increase in all customer classes that will
5 result in an increase in consumption and demand. WDI's submits that its forecast for consumption
6 and demand is appropriate.

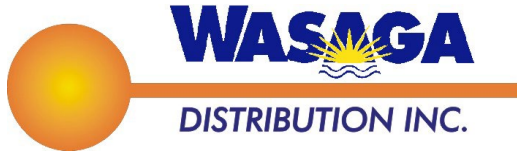


1 **2.3.3 Appendices**

- 2 Appendix 3 (A) 2024 Load Forecast Model
- 3 Appendix 3 (B) OEB Appendices 2-IB Load Forecast Analysis
- 4 Appendix 3 (C) Monthly Data used in Regression Analysis



- 1 **Appendix 3 (A) 2024 Load Forecast Model**
- 2 Wasaga Distribution Inc. has filed its 2024 Load Forecast Model separately in Microsoft Excel. 2024
- 3 Load Forecast Model.



Appendix 3 (B) OEB Appendices 2-IB Load Forecast Analysis

Customers/Connections

Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	12,938	13,133	13,372	13,622	13,978	14,330	14,485
General Service < 50 kW	819	834	833	832	849	855	860
General Service >= 50 kW	32	36	33	34	36	37	37
Large User	-	-	-	-	-	-	-
Unmetered Scattered Load Connections	35	35	35	37	45	47	49
Sentinel Lighting Connections	-	-	-	-	-	-	-
Street Lighting Connections	3,044	3,108	3,111	3,153	3,202	3,211	3,245
Wholesale Market Participants	-	-	-	-	-	-	-
Embedded Distributor(s)	-	-	-	-	-	-	-
Sub Transmission Customers	-	-	-	-	-	-	-

Consumption (Actual)

Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	95,897,147	95,046,949	102,567,918	104,845,989	105,212,685	106,350,197	108,847,740
General Service < 50 kW	17,666,223	17,600,016	16,820,699	17,504,591	18,818,565	18,852,905	19,131,278
General Service >= 50 kW	19,749,651	20,079,351	19,136,831	19,806,084	20,859,349	21,328,363	21,413,259
Large User	-	-	-	-	-	-	-
Unmetered Scattered Load Connections	153,906	154,158	153,122	155,365	184,559	207,020	215,972
Sentinel Lighting Connections	-	-	-	-	-	-	-
Street Lighting Connections	761,759	773,922	803,024	791,018	802,430	811,353	840,413
Wholesale Market Participants	-	-	-	-	-	-	-
Embedded Distributor(s)	-	-	-	-	-	-	-
Sub Transmission Customers	-	-	-	-	-	-	-



Customers/Connections Variance Analysis

Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	2%	2%	2%	2%	3%	3%	1%
General Service < 50 kW	0%	2%	0%	0%	2%	1%	1%
General Service >= 50 kW	-9%	13%	-8%	3%	6%	3%	0%
Large User	0%	0%	0%	0%	0%	0%	0%
Unmetered Scattered Load Connections	3%	0%	0%	6%	22%	4%	4%
Sentinel Lighting Connections	0%	0%	0%	0%	0%	0%	0%
Street Lighting Connections	0%	2%	0%	1%	2%	0%	1%
Wholesale Market Participants	0%	0%	0%	0%	0%	0%	0%
Embedded Distributor(s)	0%	0%	0%	0%	0%	0%	0%
Sub Transmission Customers	0%	0%	0%	0%	0%	0%	0%

Consumption (Actual) Variance Analysis

Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	9%	-1%	8%	2%	0%	1%	2%
General Service < 50 kW	4%	0%	-4%	4%	8%	0%	1%
General Service >= 50 kW	5%	2%	-5%	3%	5%	2%	0%
Large User							
Unmetered Scattered Load Connections	3%	0%	-1%	1%	19%	12%	4%
Sentinel Lighting Connections							
Street Lighting Connections	0%	2%	4%	-1%	1%	1%	4%
Wholesale Market Participants							
Embedded Distributor(s)							
Sub Transmission Customers							

Demand (Actual)

Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	-	-	-	-	-		
General Service < 50 kW	-	-	-	-	-		
General Service >= 50 kW	51,277	48,917	48,054	48,864	50,678	51,869	52,075
Large User	-	-	-	-	-		
Unmetered Scattered Load Connections	-	-	-	-	-		
Sentinel Lighting Connections	-	-	-	-	-		
Street Lighting Connections	2,252	2,287	2,328	2,338	2,371	2,398	2,424
Wholesale Market Participants	-	-	-	-	-		
Embedded Distributor(s)	-	-	-	-	-		
Sub Transmission Customers	-	-	-	-	-		



Demand (Actual) Variance Analysis

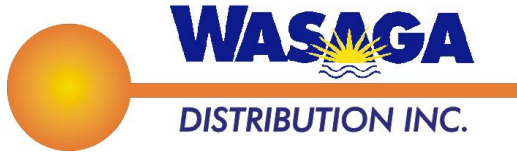
Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential							
General Service < 50 kW							
General Service >= 50 kW	-7%	-5%	-2%	2%	4%	2%	0%
Large User							
Unmetered Scattered Load Connections							
Sentinel Lighting Connections							
Street Lighting Connections	0%	2%	2%	0%	1%	1%	1%
Wholesale Market Participants							
Embedded Distributor(s)							
Sub Transmission Customers							

Consumption (Weather Normalized)

Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	93,212,027	95,807,325	103,388,461	105,475,065	105,317,898	106,350,197	108,847,740
General Service < 50 kW	17,171,569	17,740,816	16,955,265	17,609,619	18,837,384	18,852,905	19,131,278
General Service >= 50 kW	19,196,661	20,239,986	19,289,925	19,924,921	20,880,208	21,328,363	21,413,259
Large User							
Unmetered Scattered Load Connections	149,597	155,391	154,347	156,297	184,744	207,020	215,972
Sentinel Lighting Connections							
Street Lighting Connections	740,430	780,113	809,448	795,764	803,232	811,353	840,413
Wholesale Market Participants							
Embedded Distributor(s)							
Sub Transmission Customers							

Demand (Weather Normalized)

Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential							
General Service < 50 kW							
General Service >= 50 kW	49,841	49,309	48,438	49,157	50,729	51,869	52,075
Large User							
Unmetered Scattered Load Connections							
Sentinel Lighting Connections							
Street Lighting Connections	2,252	2,287	2,328	2,338	2,371	2,398	2,424
Wholesale Market Participants							
Embedded Distributor(s)							
Sub Transmission Customers							

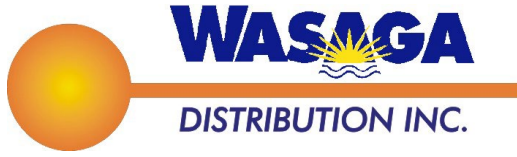


Consumption (Weather Normalized) Variance Analysis

Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	4%	3%	8%	2%	0%	1%	2%
General Service < 50 kW	-1%	3%	-4%	4%	7%	0%	1%
General Service >= 50 kW	0%	5%	-5%	3%	5%	2%	0%
Large User							
Unmetered Scattered Load Connections	-1%	4%	-1%	1%	18%	12%	4%
Sentinel Lighting Connections							
Street Lighting Connections	-2%	5%	4%	-2%	1%	1%	4%
Wholesale Market Participants							
Embedded Distributor(s)							
Sub Transmission Customers							

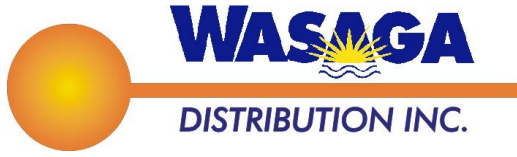
Demand (Weather Normalized) Variance Analysis

Rate Class	Historical 2018	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential							
General Service < 50 kW							
General Service >= 50 kW	2%	-1%	-2%	1%	3%	2%	0%
Large User							
Unmetered Scattered Load Connections							
Sentinel Lighting Connections							
Street Lighting Connections	0%	2%	2%	0%	1%	1%	1%
Wholesale Market Participants							
Embedded Distributor(s)							
Sub Transmission Customers							



Appendix 3 (C) Monthly Data Used in Regression Analysis

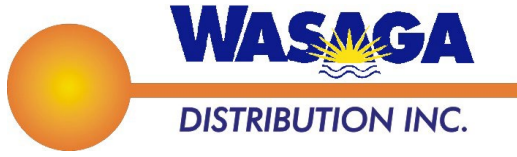
Date	Customer Count	Spring Fall Flag	Days in Month	HDD	CDD
Forecast Methodology ->	Utility Adjusted Customer Growth %	Average	Average	Average	Average
2013-January	12,593	0.00	31.00	638.90	0.00
2013-February	12,597	0.00	28.00	647.80	0.00
2013-March	12,608	1.00	31.00	582.20	0.00
2013-April	12,620	1.00	30.00	368.70	0.00
2013-May	12,628	1.00	31.00	163.70	15.70
2013-June	12,686	0.00	30.00	73.30	41.00
2013-July	12,684	0.00	31.00	6.30	96.70
2013-August	12,731	0.00	31.00	13.80	63.90
2013-September	12,749	1.00	30.00	103.50	24.10
2013-October	12,817	1.00	31.00	189.80	0.10
2013-November	12,853	1.00	30.00	476.70	0.00
2013-December	12,873	0.00	31.00	717.50	0.00
2014-January	12,874	0.00	31.00	826.10	0.00
2014-February	12,904	0.00	28.00	740.10	0.00
2014-March	12,843	1.00	31.00	730.00	0.00
2014-April	12,851	1.00	30.00	389.70	0.00
2014-May	12,850	1.00	31.00	174.60	4.10
2014-June	12,862	0.00	30.00	57.20	41.50
2014-July	12,873	0.00	31.00	29.70	50.30
2014-August	12,937	0.00	31.00	24.10	45.90
2014-September	12,915	1.00	30.00	86.30	21.40
2014-October	12,961	1.00	31.00	238.80	1.20
2014-November	12,976	1.00	30.00	460.70	0.00
2014-December	13,021	0.00	31.00	537.70	0.00
2015-January	13,050	0.00	31.00	854.90	0.00
2015-February	13,056	0.00	28.00	860.70	0.00
2015-March	13,061	1.00	31.00	646.70	0.00
2015-April	13,080	1.00	30.00	366.80	0.00



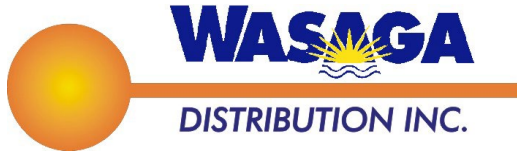
2015-May	13,084	1.00	31.00	156.00	19.80
2015-June	13,095	0.00	30.00	69.80	6.00
2015-July	13,111	0.00	31.00	17.40	76.30
2015-August	13,139	0.00	31.00	12.20	65.60
2015-September	13,158	1.00	30.00	27.60	69.50
2015-October	13,172	1.00	31.00	257.10	2.80
2015-November	13,191	1.00	30.00	323.80	1.50
2015-December	13,214	0.00	31.00	426.00	0.00
2016-January	13,218	0.00	31.00	556.40	0.00
2016-February	13,226	0.00	29.00	623.50	0.00
2016-March	13,227	1.00	31.00	502.20	0.00
2016-April	13,242	1.00	30.00	387.40	0.00
2016-May	13,242	1.00	31.00	206.00	18.40
2016-June	13,260	0.00	30.00	58.30	34.00
2016-July	13,259	0.00	31.00	2.90	117.60
2016-August	13,292	0.00	31.00	0.40	125.80
2016-September	13,310	1.00	30.00	45.40	41.40
2016-October	13,308	1.00	31.00	198.30	4.50
2016-November	13,359	1.00	30.00	249.10	0.00
2016-December	13,379	0.00	31.00	596.40	0.00
2017-January	13,381	0.00	31.00	641.00	0.00
2017-February	13,385	0.00	28.00	512.40	0.00
2017-March	13,393	1.00	31.00	594.30	0.00
2017-April	13,412	1.00	30.00	298.90	0.50
2017-May	13,418	1.00	31.00	221.00	8.60
2017-June	13,451	0.00	30.00	59.80	40.90
2017-July	13,484	0.00	31.00	3.90	61.80
2017-August	13,551	0.00	31.00	19.30	44.60
2017-September	13,567	1.00	30.00	69.00	52.00
2017-October	13,587	1.00	31.00	158.20	5.50
2017-November	13,607	1.00	30.00	444.80	0.00
2017-December	13,627	0.00	31.00	668.90	0.00
2018-January	13,641	0.00	31.00	671.90	0.00



2018-February	13,645	0.00	28.00	554.20	0.00
2018-March	13,654	1.00	31.00	559.30	0.00
2018-April	13,692	1.00	30.00	472.40	0.00
2018-May	13,724	1.00	31.00	138.80	26.80
2018-June	13,761	0.00	30.00	66.40	31.40
2018-July	13,761	0.00	31.00	4.80	109.30
2018-August	13,773	0.00	31.00	3.70	122.10
2018-September	13,798	1.00	30.00	75.90	54.80
2018-October	13,814	1.00	31.00	279.50	12.60
2018-November	13,812	1.00	30.00	503.00	0.00
2018-December	13,827	0.00	31.00	588.30	0.00
2019-January	13,857	0.00	31.00	777.90	0.00
2019-February	13,849	0.00	28.00	634.40	0.00
2019-March	13,868	1.00	31.00	585.70	0.00
2019-April	13,865	1.00	30.00	391.10	0.00
2019-May	13,876	1.00	31.00	237.00	0.00
2019-June	13,877	0.00	30.00	96.10	16.90
2019-July	13,892	0.00	31.00	4.00	93.90
2019-August	13,911	0.00	31.00	7.30	56.70
2019-September	13,920	1.00	30.00	61.60	14.80
2019-October	13,921	1.00	31.00	252.60	3.80
2019-November	14,005	1.00	30.00	523.20	0.00
2019-December	14,039	0.00	31.00	583.10	0.00
2020-January	14,084	0.00	31.00	613.80	0.00
2020-February	14,104	0.00	29.00	621.70	0.00
2020-March	14,121	1.00	31.00	486.10	0.00
2020-April	14,142	1.00	30.00	398.60	0.00
2020-May	14,174	1.00	31.00	246.20	19.40
2020-June	14,205	0.00	30.00	56.10	45.20
2020-July	14,219	0.00	31.00	0.00	139.40
2020-August	14,249	0.00	31.00	3.40	81.30
2020-September	14,271	1.00	30.00	84.60	23.00
2020-October	14,279	1.00	31.00	279.90	0.00



2020-November	14,280	1.00	30.00	296.10	5.40
2020-December	14,294	0.00	31.00	554.70	0.00
2021-January	14,313	0.00	31.00	636.70	0.00
2021-February	14,322	0.00	28.00	639.60	0.00
2021-March	14,345	1.00	31.00	460.90	0.00
2021-April	14,361	1.00	30.00	315.10	0.30
2021-May	14,378	1.00	31.00	206.00	16.00
2021-June	14,404	0.00	30.00	22.70	83.00
2021-July	14,417	0.00	31.00	14.20	57.20
2021-August	14,419	0.00	31.00	3.50	113.60
2021-September	14,431	1.00	30.00	52.90	18.90
2021-October	14,467	1.00	31.00	137.30	14.20
2021-November	14,500	1.00	30.00	412.50	0.00
2021-December	14,526	0.00	31.00	511.60	0.00
2022-January	14,546	0.00	31.00	827.00	0.00
2022-February	14,562	0.00	28.00	642.10	0.00
2022-March	14,563	1.00	31.00	539.90	0.00
2022-April	14,616	1.00	30.00	373.50	0.00
2022-May	14,629	1.00	31.00	144.10	29.90
2022-June	14,671	0.00	30.00	50.90	27.40
2022-July	14,692	0.00	31.00	10.50	74.60
2022-August	14,725	0.00	31.00	5.10	86.00
2022-September	14,744	1.00	30.00	67.60	37.90
2022-October	14,820	1.00	31.00	237.90	1.40
2022-November	14,889	1.00	30.00	365.00	5.10
2022-December	14,899	0.00	31.00	554.60	0.00
2023-January	14,927	0.00	31.00	704.46	0.00
2023-February	14,955	0.00	28.20	647.65	0.00
2023-March	14,983	1.00	31.00	568.73	0.00
2023-April	15,011	1.00	30.00	376.22	0.08
2023-May	15,039	1.00	31.00	189.34	15.87
2023-June	15,067	0.00	30.00	61.06	36.73
2023-July	15,095	0.00	31.00	9.37	87.71



2023-August	15,124	0.00	31.00	9.28	80.55
2023-September	15,152	1.00	30.00	67.44	35.78
2023-October	15,180	1.00	31.00	222.94	4.61
2023-November	15,209	1.00	30.00	405.49	1.20
2023-December	15,237	0.00	31.00	573.88	0.00
2024-January	15,257	0.00	31.00	711.02	0.00
2024-February	15,278	0.00	28.22	647.64	0.00
2024-March	15,298	1.00	31.00	567.38	0.00
2024-April	15,319	1.00	30.00	376.97	0.08
2024-May	15,339	1.00	31.00	191.90	15.87
2024-June	15,360	0.00	30.00	59.84	36.73
2024-July	15,380	0.00	31.00	9.68	87.71
2024-August	15,401	0.00	31.00	8.83	80.55
2024-September	15,422	1.00	30.00	63.83	35.78
2024-October	15,442	1.00	31.00	226.25	4.61
2024-November	15,463	1.00	30.00	398.37	1.20
2024-December	15,484	0.00	31.00	559.52	0.00