

OPERATING REVENUE

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OPERATING REVENUE

Overview

This Exhibit provides the supporting evidence for OPUCN's operating and other distribution revenue resulting from forecasted customer connections, energy consumption and load, and proposed distribution rates in accordance with this rate application. OPUCN provides total operating and other distribution revenue amounts from its: 2012 Board-Approved cost of service application, *EB-2011-0073*; 2012 and 2013 Audited results; estimated 2014 Bridge Year results; and estimated results for the 2015 – 2019 Test Years.

Total revenue has been separately categorized as:

- Operating Revenue; and
- Other Distribution Revenue

Operating Revenue is determined by applying Board-Approved or proposed distribution rates by customer category to the appropriate billing determinants. Billing determinants include the number of customer connections, energy consumption (measured by kWh) and energy demand (measured by kW). Operating Revenue presented below is net of Transformer Allowance, a description of which is included with Other Distribution Revenue.

Distribution rates combine a fixed and variable component. The fixed rates are multiplied by the number of customer connections and are not impacted by the customers' levels of consumption and demand. Variable rates are multiplied by the appropriate level of customer energy consumption or demand depending upon the category of customer.

Operating Revenue for 2012 Board-Approved, 2012 and 2013 Audited and 2014 Bridge Year results were determined using the applicable Board-Approved Tariff of Rates and Charges for those years. The 2015 – 2019 Test Year's Operating Revenue are formulated by using the proposed rates; and, the forecast customer connections, and consumption and demand usage, for each of the years.

In addition, to Operating Revenue results, OPUCN has provided a detailed variance analysis of the material changes in Operating Revenue for each year by revenue type and customer rate category.

Other Distribution Revenue is comprised of the following:

- Account 4080 – Distribution Services Revenue (SSS Charge)
- Account 4082 – Retail Services Revenue
- Account 4084 – Retailed Transaction Requests (ST) Revenues
- Account 4210 – Rent from Electric Property
- Account 4225 – Late Payment Charges
- Account 4235 – Miscellaneous Service Revenues
- Account 4325 – Revenues from Merchandise, Jobbing
- Account 4330 – Costs and Expenses of Merchandising, Jobbing, Etc
- Account 4355 – Gain on Disposal of Utility and Other Property
- Account 4357 – Gain from Retirement of Utility and Other Property
- Account 4360 – Loss on Disposal of Utility and Other Property
- Account 4362 – Loss on Retirement of Utility and Other Property
- Account 4375 – Revenues from Non-Utility Operations
- Account 4380 – Expenses of Non-Utility Operations
- Account 4390 – Miscellaneous Non-Operating Income
- Account 4405 – Interest and Dividend Income

Other Distribution Revenue has been calculated using the appropriate Board-Approved schedule of rates and charges applied to specific services including; retailer subscription, rent from electric property, late payment charges, interest, disconnect/connection and other miscellaneous services.

Other Distribution Revenue for 2012 Board-Approved, 2012 and 2013 Audited, and 2014 Bridge Year results were determined using the applicable Board-Approved Tariff of Rates and Charges for those years. The 2015 – 2019 Test Year's Other Distribution Revenue are formulated by using the proposed rates; and the forecast service levels for each of the years.

In addition, to Other Distribution Revenue results, OPUCN has provided a detailed variance analysis of the material changes in Other Distribution Revenue for each year.

SUMMARY OF TOTAL DISTRIBUTION REVENUE

Table 3-1 provides a summary of OPUCN's Total Distribution Revenue from its: 2012 Board-Approved cost of service application; 2012 and 2013 Audited results; estimated 2014 Bridge Year results; and estimates for each of the 2015 – 2019 Test Years. Table 3-2 provides a reconciliation between regulated Total Distribution Revenue from Table 3-1 and Net Revenue as stated in OPUCN'S Audited Financial Statements.

TABLE 3-1 - SUMMARY OF DISTRIBUTION REVENUE

| | At Board-Approved Rates | | | | Test Years at Proposed Rates | | | | |
|-----------------------------------|-------------------------|--------------|--------------|------------------|------------------------------|------------|------------|------------|------------|
| | 2012 Board-Approved | 2012 Audited | 2013 Audited | 2014 Bridge Year | 2015 | 2016 | 2017 | 2018 | 2019 |
| Residential | 10,753,668 | 10,500,774 | 10,563,015 | 10,728,223 | 12,989,758 | 14,059,352 | 14,497,267 | 15,147,908 | 15,429,706 |
| GS Less Than 50 KW | 2,575,166 | 2,613,205 | 2,610,463 | 2,641,120 | 2,891,879 | 3,167,698 | 3,272,133 | 3,428,212 | 3,499,331 |
| GS 50 To 999 KW | 3,505,793 | 3,210,935 | 3,274,806 | 3,301,935 | 4,184,292 | 4,708,946 | 4,978,073 | 5,330,278 | 5,557,299 |
| GS Intermediate 1,000 To 4,999 KW | 465,943 | 542,792 | 570,202 | 535,829 | 440,184 | 453,208 | 441,992 | 430,807 | 404,346 |
| Large Use | 197,547 | 226,694 | 232,630 | 237,328 | 274,056 | 300,197 | 310,820 | 325,420 | 332,012 |
| Street Lighting | 696,349 | 670,252 | 626,148 | 620,072 | 723,008 | 791,950 | 824,173 | 874,141 | 902,881 |
| Sentinel Lighting | 1,826 | 0 | 0 | 0 | 1,855 | 1,891 | 1,822 | 1,782 | 1,699 |
| Unmetered Scattered Load | 54,793 | 47,426 | 47,816 | 49,096 | 60,232 | 64,411 | 64,959 | 66,695 | 66,569 |
| Operating Revenue | 18,251,085 | 17,812,079 | 17,925,081 | 18,113,604 | 21,565,264 | 23,547,653 | 24,391,239 | 25,605,243 | 26,193,843 |
| Other Distribution Revenue | 1,792,057 | 2,030,035 | 1,934,649 | 1,390,271 | 1,336,319 | 1,506,940 | 1,631,192 | 1,452,379 | 1,517,631 |
| Total Distribution Revenue | 20,043,142 | 19,842,114 | 19,859,729 | 19,503,876 | 22,901,583 | 25,054,593 | 26,022,430 | 27,057,622 | 27,711,474 |

The Net Revenue as reported in OPUCN's audited financial statements for 2012 and 2013 has been adjusted to reflect amounts presented in Table 3-1 above. Table 3-2 provides the differences between the Net Revenue reported in the audited financial statements and Total Distribution Revenue from Table 3-1 above, and a comparison of results to the 2012 Board-Approved amounts.

TABLE 3-2 - TOTAL DISTRIBUTION REVENUE RECONCILED TO FINANCIAL STATEMENTS

| | 2012 Board- Approved | 2012 Audited | 2013 Audited |
|--|-------------------------|--------------|--------------|
| Net revenue from sale of electrical energy from audited statements | 18,251,085 | 17,954,060 | 18,072,982 |
| Account 4080 - Distribution Services Revenue (SSS Admin Fees) | 0 | (141,981) | (147,901) |
| Operating Revenue | 18,251,085 | 17,812,079 | 17,925,081 |
| Other revenue from audited statements | 1,792,057 | 1,802,433 | 1,841,803 |
| Account 4080 - Distribution Services Revenue (SSS Admin Fees) | 0 | 141,981 | 147,901 |
| Account 4084 - Service Ticket Requests | 0 | 1,725 | 1,324 |
| Account 4355 - Gain on Disposition of Utility and Other Property | 0 | (78,877) | 5,283 |
| Account 4360 - Loss on Disposition of Utility and Other Property | 0 | 0 | (213,702) |
| Account 4405 - Interest and Dividend Income | 0 | 162,774 | 152,039 |
| Other Distribution Revenue | 1,792,057 | 2,030,035 | 1,934,649 |

Account 4080 – Distribution Services Revenue (SSS Admin Fees)

This is an allocation difference between Operating Revenue and Other Distribution Revenue.

Account 4084 – Service Ticket Requests

Is grouped elsewhere in financial statements and has been added to Other Distribution Revenue for purpose of rate-making.

Accounts 4355 and 4360 – Gain/Loss on Disposition of Utility and Other Property

Is grouped elsewhere in financial statements and has been added to Other Distribution Revenue for purpose of rate-making.

Account 4405 – Interest and Dividend Income

Is grouped elsewhere in financial statements and has been added to Other Distribution Revenue for purpose of rate-making.

VARIANCE ANALYSIS

Operating Revenue

Tables 3-3 through 3-5 identify OPUCN's Operating Revenue at proposed and existing rates for the 2014 Bridge Year and the 2015 through 2019 Test Years. Actual results are provided for 2012 and 2013 in addition to the Board-Approved Operating Revenue from OPUCN's last cost of service application in 2012.

Table 3-5 calculates Operating Revenue at prior year rates. For 2015, the 2014 rates as approved in OPUCN's 2014 IRM rate application EB-2013-0162 are applied to the forecast billing determinants and for 2016 through 2019, the prior year rates, as proposed in this application, are applied to the forecast billing determinants.

TABLE 3-3 - OPERATING REVENUE AT BOARD-APPROVED RATES

| | At Board-Approved Rates | | | |
|-----------------------------------|-------------------------|--------------|--------------|------------------|
| | 2012 Board-Approved | 2012 Audited | 2013 Audited | 2014 Bridge Year |
| Residential | 10,753,668 | 10,500,774 | 10,563,015 | 10,728,223 |
| GS Less Than 50 KW | 2,575,166 | 2,613,205 | 2,610,463 | 2,641,120 |
| GS 50 To 999 KW | 3,505,793 | 3,210,935 | 3,274,806 | 3,301,935 |
| GS Intermediate 1,000 To 4,999 KW | 465,943 | 542,792 | 570,202 | 535,829 |
| Large Use | 197,547 | 226,694 | 232,630 | 237,328 |
| Street Lighting | 696,349 | 670,252 | 626,148 | 620,072 |
| Sentinel Lighting | 1,826 | 0 | 0 | 0 |
| Unmetered Scattered Load | 54,793 | 47,426 | 47,816 | 49,096 |
| Operating Revenue | 18,251,085 | 17,812,079 | 17,925,081 | 18,113,604 |

TABLE 3-4 - OPERATING REVENUE AT PROPOSED RATES

| | Test Years at Proposed Rates | | | | |
|-----------------------------------|------------------------------|------------|------------|------------|------------|
| | 2015 | 2016 | 2017 | 2018 | 2019 |
| Residential | 12,989,758 | 14,059,352 | 14,497,267 | 15,147,908 | 15,429,706 |
| GS Less Than 50 KW | 2,891,879 | 3,167,698 | 3,272,133 | 3,428,212 | 3,499,331 |
| GS 50 To 999 KW | 4,184,292 | 4,708,946 | 4,978,073 | 5,330,278 | 5,557,299 |
| GS Intermediate 1,000 To 4,999 KW | 440,184 | 453,208 | 441,992 | 430,807 | 404,346 |
| Large Use | 274,056 | 300,197 | 310,820 | 325,420 | 332,012 |
| Street Lighting | 723,008 | 791,950 | 824,173 | 874,141 | 902,881 |
| Sentinel Lighting | 1,855 | 1,891 | 1,822 | 1,782 | 1,699 |
| Unmetered Scattered Load | 60,232 | 64,411 | 64,959 | 66,695 | 66,569 |
| Operating Revenue | 21,565,264 | 23,547,653 | 24,391,239 | 25,605,243 | 26,193,843 |

TABLE 3-5 - OPERATING REVENUE AT PRIOR YEAR RATES

| | Test Years at Prior Year Rates | | | | |
|-----------------------------------|--------------------------------|------------|------------|------------|------------|
| | 2015 | 2016 | 2017 | 2018 | 2019 |
| Residential | 11,056,940 | 13,210,721 | 14,230,728 | 14,695,973 | 15,353,560 |
| GS Less Than 50 KW | 2,737,884 | 2,957,570 | 3,213,031 | 3,327,817 | 3,485,264 |
| GS 50 To 999 KW | 3,628,963 | 4,376,364 | 4,888,159 | 5,174,182 | 5,534,959 |
| GS Intermediate 1,000 To 4,999 KW | 462,750 | 425,151 | 432,896 | 427,127 | 417,113 |
| Large Use | 247,755 | 278,994 | 305,206 | 315,890 | 330,677 |
| Street Lighting | 518,700 | 574,316 | 815,042 | 848,542 | 899,251 |
| Sentinel Lighting | 1,777 | 1,792 | 1,825 | 1,758 | 1,718 |
| Unmetered Scattered Load | 48,406 | 59,625 | 63,796 | 64,107 | 66,004 |
| Operating Revenue | 18,703,174 | 21,884,533 | 23,950,683 | 24,855,397 | 26,088,546 |

2012 ACTUAL COMPARISON TO 2012 BOARD-APPROVED OPERATING REVENUE

Tables 3-6 and Table 3-7 are provided to illustrate the difference between the Board-Approved and Actual billing determinants experienced in 2012. Table 3-6 provides the billing determinants and Table 3-7 highlights the differences.

TABLE 3-6 - BOARD-APPROVED AND ACTUAL BILLING DETERMINANTS

| | 2012 Board-Approved | | | | 2012 Actual Results | | | | |
|-----------------------------------|----------------------|---------------|-----------|-------------------|----------------------|---------------|-----------|-------------------|-----------|
| | Customer Connections | kWh | kW | Operating Revenue | Customer Connections | kWh | kW | Operating Revenue | Shortfall |
| Residential | 49,920 | 496,447,375 | 0 | 10,753,668 | 48,989 | 480,857,398 | 0 | 10,500,774 | 252,893 |
| GS Less Than 50 KW | 3,961 | 132,319,612 | 0 | 2,575,166 | 3,858 | 133,685,114 | 0 | 2,613,205 | -38,039 |
| GS 50 To 999 KW | 518 | 359,363,081 | 917,360 | 3,505,793 | 503 | 343,727,344 | 846,459 | 3,210,935 | 294,858 |
| GS Intermediate 1,000 To 4,999 KW | 10 | 78,175,306 | 167,159 | 465,943 | 10 | 78,050,883 | 182,189 | 542,792 | -76,850 |
| Large Use | 1 | 33,402,763 | 70,585 | 197,547 | 1 | 41,462,286 | 89,554 | 226,694 | -29,147 |
| Street Lighting | 12,762 | 11,044,796 | 29,568 | 696,349 | 12,200 | 10,262,518 | 27,605 | 668,426 | 27,922 |
| Sentinel Lighting | 22 | 38,567 | 115 | 1,826 | 22 | 38,567 | 115 | 1,826 | 0 |
| Unmetered Scattered Load | 313 | 3,208,502 | 0 | 54,793 | 297 | 2,789,400 | 0 | 47,426 | 7,367 |
| Operating Revenue | 67,507 | 1,114,000,000 | 1,184,788 | 18,251,085 | 65,880 | 1,090,873,510 | 1,145,922 | 17,812,079 | 439,006 |

TABLE 3-7 - DIFFERENCES BETWEEN BOARD-APPROVED AND ACTUAL BILLING DETERMINANTS

| | Differences Between Board-Approved and Actual | | | | | | | |
|-----------------------------------|---|-------------|----------|-------------|---------------|---------------|------------------|-------------------|
| | Customer Connections | kWh | kW | Fixed Rate | Variable Rate | Fixed Revenue | Variable Revenue | Operating Revenue |
| Residential | 931 | 15,589,976 | 0 | \$ 8.25 | \$ 0.0117 | 92,150 | 182,571 | 274,721 |
| GS Less Than 50 KW | 103 | (1,365,502) | 0 | \$ 8.16 | \$ 0.0165 | 10,094 | (22,573) | (12,479) |
| GS 50 To 999 KW | 15 | 15,635,737 | 70,901 | \$ 42.02 | \$ 3.6141 | 7,564 | 256,241 | 263,805 |
| GS Intermediate 1,000 To 4,999 KW | (0) | 124,422 | (15,030) | \$ 1,190.07 | \$ 2.5254 | (3,570) | (37,958) | (41,528) |
| Large Use | 0 | (8,059,523) | (18,969) | \$ 8,057.37 | \$ 2.0002 | 0 | (37,941) | (37,941) |
| Street Lighting | 562 | 782,278 | 1,964 | \$ 1.14 | \$ 17.6374 | 7,690 | 34,633 | 42,323 |
| Sentinel Lighting | 0 | 0 | 0 | \$ 4.22 | \$ 6.0512 | 0 | 0 | 0 |
| Unmetered Scattered Load | 16 | 419,102 | (0) | \$ 3.25 | \$ 0.0133 | 624 | 5,562 | 6,186 |
| Operating Revenue | 1,627 | 23,126,491 | 38,866 | | | 114,552 | 380,536 | 495,087 |

Based upon the shortfall in both the number of customer connections and the amount of energy billed for consumption and demand, the actual operating revenue received was \$439,006 less than Board-Approved amounts. OPUCN uses an average of the beginning and ending customer connections in the tables above which produces a difference in actual operating and Board-Approved amounts totaling \$495,087. The difference between the two tables is \$56,081 which OPUCN believes is the result of timing in actual customer connection growth and energy used throughout the year.

2013 ACTUAL COMPARISON TO 2012 ACTUAL OPERATING REVENUE

Table 3-8 is provided to illustrate the difference between the Actual billing determinants experienced in 2013 compared with 2012.

TABLE 3-8 - ACTUAL BILLING DETERMINANTS FOR 2013 AND 2012

| | 2012 Actual Results | | | | 2013 Actual Results | | | | |
|-----------------------------------|----------------------|---------------|-----------|-------------------|----------------------|---------------|-----------|-------------------|------------|
| | Customer Connections | kWh | kW | Operating Revenue | Customer Connections | kWh | kW | Operating Revenue | Difference |
| Residential | 48,989 | 480,857,398 | 0 | 10,500,774 | 49,554 | 477,505,309 | 0 | 10,563,015 | 62,241 |
| GS Less Than 50 KW | 3,858 | 133,685,114 | 0 | 2,613,205 | 3,911 | 132,512,615 | 0 | 2,610,463 | (2,741) |
| GS 50 To 999 KW | 503 | 343,727,344 | 846,459 | 3,210,935 | 499 | 338,465,212 | 843,160 | 3,274,806 | 63,871 |
| GS Intermediate 1,000 To 4,999 KW | 10 | 78,050,883 | 182,189 | 542,792 | 11 | 79,491,306 | 184,241 | 570,202 | 27,410 |
| Large Use | 1 | 41,462,286 | 89,554 | 226,694 | 1 | 42,494,651 | 92,753 | 232,630 | 5,936 |
| Street Lighting | 12,200 | 10,262,518 | 27,605 | 668,426 | 12,306 | 9,079,859 | 25,261 | 626,148 | (42,278) |
| Sentinel Lighting | 22 | 38,567 | 115 | 1,826 | 22 | 38,567 | 115 | 0 | (1,826) |
| Unmetered Scattered Load | 297 | 2,789,400 | 0 | 47,426 | 295 | 2,793,917 | 0 | 47,816 | 390 |
| Operating Revenue | 65,880 | 1,090,873,510 | 1,145,922 | 17,812,079 | 66,599 | 1,082,381,436 | 1,145,530 | 17,925,081 | 113,002 |

The average number of customer connections increased by 1.1% from 65,880 in 2012 to 66,599 in 2013. However, billable consumption decreased by 0.8%, or approximately

8.5 million kWh and billable demand was flat. These changes in billing determined determinants combined with a price increase of approximately 1% resulting from OPUCN's IRM rate application produced an increase in operating revenue of \$113,002, or 0.6%.

2014 BRIDGE YEAR FORECAST TO 2013 ACTUAL OPERATING REVENUE

Table 3-9 is provided to illustrate the difference between the forecast billing determinants for 2014 compared with Actual results in 2013.

TABLE 3-9 - FORECAST 2014 AND ACTUAL 2013 BILLING DETERMINANTS

| | 2013 Actual Results | | | | 2014 Actual Results | | | | |
|-----------------------------------|----------------------|---------------|-----------|-------------------|----------------------|---------------|-----------|-------------------|------------|
| | Customer Connections | kWh | kW | Operating Revenue | Customer Connections | kWh | kW | Operating Revenue | Difference |
| Residential | 49,554 | 477,505,309 | 0 | 10,563,015 | 50,177 | 481,054,885 | 0 | 10,728,223 | 165,208 |
| GS Less Than 50 KW | 3,911 | 132,512,615 | 0 | 2,610,463 | 3,924 | 134,663,866 | 0 | 2,641,120 | 30,657 |
| GS 50 To 999 KW | 499 | 338,465,212 | 843,160 | 3,274,806 | 500 | 349,725,891 | 885,168 | 3,301,935 | 27,129 |
| GS Intermediate 1,000 To 4,999 KW | 11 | 79,491,306 | 184,241 | 570,202 | 11 | 72,223,027 | 159,223 | 535,829 | (34,373) |
| Large Use | 1 | 42,494,651 | 92,753 | 232,630 | 1 | 43,637,356 | 99,132 | 237,328 | 4,698 |
| Street Lighting | 12,306 | 9,079,859 | 25,261 | 626,148 | 12,581 | 9,157,883 | 24,692 | 620,072 | (6,076) |
| Sentinel Lighting | 22 | 38,567 | 115 | 0 | 295 | 34,756 | 102 | 0 | 0 |
| Unmetered Scattered Load | 295 | 2,793,917 | 0 | 47,816 | 23 | 2,720,085 | 0 | 49,096 | 1,280 |
| Operating Revenue | 66,599 | 1,082,381,436 | 1,145,530 | 17,925,081 | 67,512 | 1,093,217,749 | 1,168,317 | 18,113,604 | 188,524 |

The budgeted operating revenue for 2014 is \$188,524 higher than actual results for 2013. Customer connections, consumption and demand are forecast to increase by 1.0% to 2% according to the load forecast. Rates for distribution revenue were increased by approximately 1% under the IRM methodology.

2015 TEST YEAR FORECAST TO 2014 BRIDGE YEAR FORECAST OPERATING REVENUE

Table 3-10 is provided to illustrate the difference between the forecast billing determinants for 2015 compared with 2014.

TABLE 3-10 - FORECAST BILLING DETERMINANTS FOR 2015 AND 2014

| | 2014 Actual Results | | | | 2015 Actual Results | | | | |
|-----------------------------------|----------------------|---------------|-----------|-------------------|----------------------|---------------|-----------|-------------------|------------|
| | Customer Connections | kWh | kW | Operating Revenue | Customer Connections | kWh | kW | Operating Revenue | Difference |
| Residential | 50,177 | 481,054,885 | 0 | 10,728,223 | 51,682 | 483,663,532 | 0 | 12,989,758 | 2,261,535 |
| GS Less Than 50 KW | 3,924 | 134,663,866 | 0 | 2,641,120 | 4,042 | 137,144,452 | 0 | 2,891,879 | 250,758 |
| GS 50 To 999 KW | 500 | 349,725,891 | 885,168 | 3,301,935 | 515 | 365,803,341 | 925,860 | 4,184,292 | 882,357 |
| GS Intermediate 1,000 To 4,999 KW | 11 | 72,223,027 | 159,223 | 535,829 | 11 | 66,360,781 | 146,299 | 440,184 | -95,645 |
| Large Use | 1 | 43,637,356 | 99,132 | 237,328 | 1 | 44,988,087 | 102,200 | 274,056 | 36,727 |
| Street Lighting | 12,581 | 9,157,883 | 24,692 | 620,072 | 12,958 | 6,898,975 | 18,602 | 723,008 | 102,936 |
| Sentinel Lighting | 295 | 34,756 | 102 | 0 | 296 | 2,688,072 | 99 | 1,855 | 1,855 |
| Unmetered Scattered Load | 23 | 2,720,085 | 0 | 49,096 | 22 | 33,730 | 0 | 60,232 | 11,136 |
| Operating Revenue | 67,512 | 1,093,217,749 | 1,168,317 | 18,113,604 | 69,527 | 1,107,580,970 | 1,193,061 | 21,565,264 | 3,451,659 |

Operating revenue forecast for 2015, initial Test Year of OPUCN's Custom IR rate application, represents an increase of \$3,451,659, or 19% above the forecast 2014 Bridge Year estimates.

The increase in revenue is primarily due to rate increases, explained below in more detail, and higher forecast customer connections, demand and consumption.

Customer connections are expected to increase by 3% which is higher than historical trends due to population growth planned by The City of Oshawa in relation to expansion of the 407 ETR Highway.

Demand and consumption are forecast to increase by 1% and 2% respectively. The expected increase in consumption and demand are influenced by CDM savings outlined for OPUCN in the *Conservation First Framework LDC Tool Kit (Draft VI – August 12, 2014)* issued by the Ontario Power Authority. OPUCN is developing its plan to comply with CDM targets assigned in the *Tool Kit* which will include the City of Oshawa's planned undertaking to install LED lamps in its streetlights.

An increase in distribution rates is required to generate sufficient revenue requirement to recover of its costs to provide distribution services, permitted Return on Equity and the funds necessary to service debt. Since OPUCN's last rate rebasing in 2012, investments required to support the distribution system have been significant resulting in insufficient revenue under the IRM rate regime.

The following section provides a more detailed explanation for the increase in operating revenue and OPUCN's request to file its next cost of service application in advanced of

its scheduled time which is 2016 under the current 3rd Generation Incentive Regulation for rate-making decisions. OPUCN is requesting to file for an early rebasing to mitigate a higher increase in operating revenue and further impairment to its financial results by waiting until 2016.

Early Rebasing

Under Section 2.1 (*Cost of Service Application in Advance of Scheduled Application*) of the Boards *Filing Requirements for Electricity Distributors Rate Applications – 2014 Edition for 2015 Rate Applications* –, dated July 18, 2014, the Board set out the following:

“Distributors opting for Price Cap IR and planning to file a cost of service application earlier than scheduled, must meet the threshold for early rebasing established in the Board’s letter of April 20, 2010.”

The following statement was included in the Board’s letter of April 20, 2010:

“The Board’s rate-setting policies are such that distributors are expected to be able to adequately manage their resources and financial needs during the term of their IRM plan. The Board’s multi-year rate setting approach does contemplate that some distributors may legitimately need to have their rates rebased earlier than originally Ontario Energy Board scheduled, by making provision for an “off-ramp”. The conditions under which the “off-ramp” applies reflect the Board’s view of the circumstances that justify a departure from the plan schedule that would otherwise be applicable.”

The threshold for reviewing of the terms of the distributor’s rate plan with a view to early rebasing is earnings 300 basis points (3%) below the allowed maximum ROE.

While under 3rd Generation Incentive Regulation for rate-making decisions, it was normally intended that an applicant would file for a cost of service rebasing once every four years, followed by three years of IRM rate adjustments. Under these regulations, OPUCN’s next scheduled cost of service was for rates effective January 1, 2016.

However, OPUCN is filing its cost of service application one year earlier under the “off-ramp” regulations set out above.

In 2012 and 2013, OPUCN’s capital expenditure requirements have been significantly more than the allowed depreciation expense included in its Board-Approved rates. This pattern of high capital expenditures is forecast for the 2014 Bridge Year and 2015 Test Year also. The following table provides the comparison between capital expenditures and allowed depreciation in millions of dollars:

| | 2012 (Board – Approved) | 2013 | 2014 | 2015 |
|----------------------|--------------------------------|-------------|-------------|-------------|
| Capital | \$ 11.1 | \$ 11.1 | \$ 10.7 | \$ 13.5 |
| Allowed Depreciation | \$ 2.9 | \$ 2.9 | \$ 3.0 | \$ 3.0 |
| Difference | \$ 8.2 | \$ 8.2 | \$ 7.7 | \$ 10.5 |
| Multiple | 3.8 | 3.8 | 3.6 | 4.5 |

Allowed depreciation has been estimated for 2013 and 2014 based upon the percentage increase in rates obtained through OPUCN’s IRM rate applications for those years.

The impact of high capital expenditures during an IRM rate period has been an erosion in earnings for OPUCN. In addition to the increase in actual depreciation expense not included in Board-Approved rates during the IRM period, there is a further loss on OPUCN’s return on equity (“ROE”) relating to the increase in its rate base during this period of time. The following table provides a snapshot of the impact high capital expenditures have had on OPUCN’s earnings under IRM rates, as reflected in its deemed ROE:

| | 2012 (A) | 2013 (A) | 2014 (F) | 2015 (F) |
|--------------------|-----------------|-----------------|-----------------|-----------------|
| ROE (Deemed Basis) | 9.3% | 5.9% | 4.2% | 0.6% |

The Board-Approved ROE under which OPUCN is operating is 9.42%. As indicated in the table above, OPUCN has reached an off-ramp situation in 2013; that is, its ROE is

more than 300 (3%) basis points less than the Board-Approved amount. Based upon its forecast for 2014 and 2015, this erosion is expected to become significantly worse.

Tables 3-11 and Table 3-12 below include the calculations used in determining OPUCN's deemed ROE and provide the premise for its requirement to file an early cost of service.

TABLE 3-11 - CALCULATIONS FOR BOARD-APPROVED DEEMED ROE AND ROE DEFICIENCY

| | 2012 Board-Approved | 2012 Audited | 2013 Audited | 2014 Bridge Year | 2015 Test Year |
|--|---------------------|---------------|---------------|------------------|----------------|
| Rate Base | \$ 80,817,479 | \$ 81,096,747 | \$ 89,846,963 | \$ 98,382,653 | \$ 104,990,575 |
| Deemed Equity | 40% | 40% | 40% | 40% | 40% |
| ROE | 9.42% | 9.42% | 9.42% | 9.42% | 9.42% |
| Deemed Net Income | \$ 3,045,203 | \$ 3,055,725 | \$ 3,385,434 | \$ 3,707,058 | \$ 3,956,045 |
| Off Ramp Dead Band - Upper +3.0% | \$ 4,015,012 | \$ 4,028,886 | \$ 4,463,597 | \$ 4,887,650 | \$ 5,215,932 |
| Off Ramp Dead Band - Lower -3.0% | \$ 2,075,393 | \$ 2,082,564 | \$ 2,307,270 | \$ 2,526,467 | \$ 2,696,158 |
| Actual Net Income Adjusted for Deemed Interest | | \$ 3,017,461 | \$ 2,132,724 | \$ 1,641,479 | \$ 333,582 |
| Deemed ROE | | 9.30% | 5.93% | 4.17% | 0.79% |
| Deemed ROE Deficiency | | -0.12% | -3.49% | -5.25% | -8.63% |
| | | | | | |
| Earnings for Accounting | | \$ 3,515,664 | \$ 2,901,889 | \$ 2,305,817 | \$ 763,473 |
| Equity | | 56% | 56% | 50% | 50% |
| Equity for Accounting | | \$ 37,742,089 | \$ 38,943,978 | \$ 39,549,795 | \$ 38,397,103 |
| ROE for Accounting | | 9.31% | 7.45% | 5.83% | 1.99% |
| ROE Deficiency | | -0.11% | -1.97% | -3.59% | -7.43% |

Table 3-11 compares the Board-Approved deemed ROE with the actual deemed ROE earned by OPUCN for the years 2012 and 2013, and forecast deemed ROE for the 2014 Bridge Year and 2015 Test Year. From the table, the Deemed ROE Deficiency exceeds the off-ramp trigger of 300 (3%) basis points for 2013. Actual deemed ROE of 5.93% is 3.49% less than the Board-Approved deemed ROE.

Results from OPUCN's financial statements are also provided for comparison to Board-Approved deemed ROE. Under financial reporting rules, OPUCN's ROE is higher primarily due to its capital structure with equity equaling 50% or better. Under financial reporting rules, OPUCN is expected to be more than 3% less than Board-Approved ROE by 2014.

TABLE 3-12 - ROE SHORTFALL FROM LOSS ON EARNINGS FROM RATE BASE AND DEPRECIATION

| | 2012 Board-Approved | 2012 Audited | 2013 Audited | 2014 Bridge Year | 2015 Test Year |
|--|---------------------|---------------|---------------|------------------|----------------|
| Rate Base | \$ 80,817,479 | \$ 81,096,747 | \$ 89,846,963 | \$ 98,382,653 | \$ 104,990,575 |
| Increase in Rate Base | | \$ 279,267 | \$ 9,029,484 | \$ 17,565,174 | \$ 24,173,096 |
| ROE | 9.42% | 9.42% | 9.42% | 9.42% | 9.42% |
| Loss of Earnings on Rate Base Increase | | \$ 26,307 | \$ 850,577 | \$ 1,654,639 | \$ 2,277,106 |
| Depreciation expense | \$ 3,076,184 | \$ 3,269,251 | \$ 3,851,800 | \$ 4,491,588 | \$ 4,491,588 |
| Loss of Earnings on Depreciation Increase | | \$ 193,067 | \$ 775,616 | \$ 1,415,404 | \$ 1,415,404 |
| Total Loss on Earnings from Rate Base and Depreciation | | \$ 219,374 | \$ 1,626,193 | \$ 3,070,043 | \$ 3,692,509 |
| IRM Increase | | \$ - | \$ 47,201 | \$ 95,296 | \$ 149,247 |
| Shortfall | | \$ 219,374 | \$ 1,578,992 | \$ 2,974,747 | \$ 3,543,262 |
| Deemed ROE Shortfall from Loss on Earnings from Rate Base and Depreciation | | -0.68% | -4.39% | -7.56% | -8.44% |
| Cumulative Shortfall | | \$ 219,374 | \$ 1,798,367 | \$ 4,773,114 | \$ 8,316,376 |

Table 3-12 estimates the amount of the earnings shortfall that can be attributed to its high capital expenditure requirements and the related increase in depreciation expense resulting from its capital investments.

From the table, the Deemed ROE Shortfall from Loss on Earnings from Rate Base and Depreciation is estimated. Although the shortfall in Table 3-12 is different than Table 3-11, OPUCN believes the deemed ROE shortfall is generally explained by OPUCN's capital program.

Capital Program

The requirement for large capital expenditures experienced by OPUCN, which is the key driver for the decision to rebase early and the increase in operating revenue in 2015, was outlined in the cost of service rate application filed with the Board in 2011 for rates beginning in 2012. The following highlighted material was copied from the rate application as filed.

OPUCN's capital investment in its distribution plant has averaged approximately \$5 million per year over the past 10 years. By comparison, OPUCN estimates that it will require average capital expenditures of

approximately \$12 million over the next five years, beginning with 2011. As presented in the Asset Condition Assessment and Asset Management Plan ("Asset Management Plan") prepared by Metsco Energy Solutions filed as Appendix A to this Exhibit, this level of investment is required to upgrade the Company's assets which are near or at the end of their useful lives and to ensure the City of Oshawa continues to receive safe and reliable power in the future.

A summary of the expected capital expenditures over the next five years is presented below:

- 2011 – \$10,740,059
- 2012 – \$11,122,343
- 2013 – \$11,885,858
- 2014 – \$13,594,095
- 2015 – \$13,312,993

The total in-service capital expenditures for the five year period presented in the 2012 cost of service rate application was \$60 million and did not include the investment in smart meters. Based upon actual expenditures on in-service capital for 2011 through 2013 (net of smart meters) plus forecast 2014 and 2015, the total spend is expected to be \$58 million.

Total planned in-service capital expenditures outlined in OPUCN's 2012 cost of service application are in line with actual expenditures for 2011, 2012 and 2013 plus forecast 2014 and 2015 amounts. The investment in smart meters was excluded from the comparison due to the special circumstances in reporting the expenditures and recognition was subject to a separate Board review and Decision.

The requirement for capital expenditures outlined in OPUCN's 2012 cost of service application was acknowledged by the Board as evidenced in their decision to: approve \$10.2 million for 2012; and, additionally, approve an Accounting Order for an

asymmetrical variance account to capture the difference between actual capital expenditures and the Board-Approved amount in the event the actual amount is lower.

The following has been copied from OPUCN's Draft Rate Order dated December 13, 2011:

Issue 2.3, "Are the capital expenditures appropriate?"

On page 11 of the Settlement Agreement, the Parties agreed that the resulting forecast of 2012 Test Year capital expenditures is appropriate. However, in the event that actual capital expenditures are less than the amount forecast, the Parties have agreed that it is appropriate to establish an asymmetrical variance account ("Capital Additions Variance Account") that would provide for the return to customers of the revenue requirement impact related to the difference between \$10.2 million (under IFRS) of capital expenditures, and actual 2012 capital expenditures, if lower.

The Capital Additions Variance Account would record the difference in all components of annual revenue requirement (including, but not limited to, depreciation, interest, return on equity and PILs) resulting from any under spending on total capital expenditures closed to rate base in the Test Year. That is, if the capital expenditures are less than \$10.2 million, the revenue requirement impact of the shortfall will be calculated and credited to the account. The account would be subject to disposition in accordance with the Board's normal policies from time to time on the disposition of applicable variance accounts.

In addition, the *Transcript Oral Hearing 20111206* filed on December 6, 2011 relating to the 2012 cost of service application included recordings of: a discussion regarding capital expenditure requirements for the years 2013 through 2015; and mechanisms to ensure OPUCN investments in its capital expenditures met its planned spend included in the table above.

The applicable recordings can be found on pages 6 through 15 of the *Transcript Oral Hearing 20111206* filed on December 6, 2011.

2016 THROUGH 2019 TEST YEARS FORECAST TO 2015 TEST YEAR FORECAST OPERATING REVENUE

Table 3-13 provides the forecast operating revenue for the Test Years at proposed rates.

TABLE 3-13 - FORECAST OPERATING REVENUES AT PROPOSED RATES

| | Test Years at Proposed Rates | | | | |
|-----------------------------------|------------------------------|------------|------------|------------|------------|
| | 2015 | 2016 | 2017 | 2018 | 2019 |
| Residential | 12,989,758 | 14,059,352 | 14,497,267 | 15,147,908 | 15,429,706 |
| GS Less Than 50 KW | 2,891,879 | 3,167,698 | 3,272,133 | 3,428,212 | 3,499,331 |
| GS 50 To 999 KW | 4,184,292 | 4,708,946 | 4,978,073 | 5,330,278 | 5,557,299 |
| GS Intermediate 1,000 To 4,999 KW | 440,184 | 453,208 | 441,992 | 430,807 | 404,346 |
| Large Use | 274,056 | 300,197 | 310,820 | 325,420 | 332,012 |
| Street Lighting | 723,008 | 791,950 | 824,173 | 874,141 | 902,881 |
| Sentinel Lighting | 1,855 | 1,891 | 1,822 | 1,782 | 1,699 |
| Unmetered Scattered Load | 60,232 | 64,411 | 64,959 | 66,695 | 66,569 |
| Operating Revenue | 21,565,264 | 23,547,653 | 24,391,239 | 25,605,243 | 26,193,843 |

The table below provides a comparison of OPUCN's estimated Operating Revenue using: proposed rates; prior year rates; and IRM rates with an annual forecast increase of 1.45%. The table calculates the shortfall in revenue requirement from prior year's rates and from IRM rates based upon an annual rate increase of 1.45%, which was the latest Board-Approved rate increase applicable for 2015 rates. The table also provides the impact of IRM rates on the deemed ROE for each year.

| | Test Years | | | | |
|---|------------|------------|------------|------------|------------|
| | 2015 | 2016 | 2017 | 2018 | 2019 |
| Operating Revenue at Proposed Rates | 21,565,264 | 23,547,653 | 24,391,239 | 25,605,243 | 26,193,843 |
| | | | | | |
| Operating Revenue at Prior Year's Rates | | 21,884,533 | 23,950,683 | 24,855,397 | 26,088,546 |
| Shortfall | | -1,663,120 | -440,556 | -749,846 | -105,296 |
| | | | | | |
| Estimated Operating Revenue at IRM Annual Increase of 1.45% | | 22,204,976 | 22,942,780 | 23,734,531 | 24,545,638 |
| Shortfall | | -1,342,677 | -1,448,459 | -1,870,713 | -1,648,205 |
| Impact of Shortfall on ROE | | -2.09% | -2.14% | -2.58% | -2.01% |

The results summarized in the table above highlights the need for OPUCN to file its rate application for the period under the Custom Incentive Rate-Setting mechanism identified in the Report of the Board, ***Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach ("RRFE")***, issued on October 18, 2012. Deemed ROE is estimated to be greater than 2% and near the off-ramp trigger of 3% in each of the interim years if OPUCN applies an IRM rate-making model. The cumulative negative impact on earnings before PILs is in excess of \$6 million.

Under Section 2.2.1 of the RRFE, the Board made the following statements:

"In the Custom IR method, rates are set based on a five year forecast of a distributor's revenue requirement and sales volumes. This Report provides the general policy direction for this rate-setting method, but the Board expects that the specifics of how the costs approved by the Board will be recovered through rates over the term will be determined in individual rate applications. This rate-setting method is intended to be customized to fit the specific applicant's circumstances. Consequently, the exact nature of the rate order that will result may vary from distributor to distributor.

The Custom IR method will be most appropriate for distributors with significantly large multi-year or highly variable investment commitments that exceed historical levels. The Board expects that a distributor that applies under this method will file robust evidence of its cost and revenue forecasts over a five year horizon, as well as detailed infrastructure

investment plans over that same time frame. In addition, the Board expects a distributor's application under Custom IR to demonstrate its ability to manage within the rates set, given that actual costs and revenues will vary from forecast.

The Board has determined that a minimum term of five years is appropriate. As is the case for 4th Generation IR, this term will better align rate-setting and distributor planning, strengthen efficiency incentives, and support innovation. It will help to manage the pace of rate increases for customers through adjustments calculated to smooth the impact of forecasted expenditures.

The adjudication of an application under the Custom IR method will require the expenditure of significant resources by both the Board and the applicant. The Board therefore expects that a distributor that applies under this method will be committed to that method for the duration of the approved term and will not seek early termination. As noted above, however, a regulatory review may be initiated if the distributor performs outside of the ± 300 basis points earnings dead band or if its performance erodes to unacceptable levels."

The significant driver for the Custom IR approach to rate-making is OPUCN's requirement for large multi-year investments in capital expenditures. Based upon OPUCN's Distribution System Plan included in Chapter 5 of the rate application, annual capital expenditures and the applicable Depreciation Expenses are presented in the following table:

| | Test Years | | | | |
|----------------------|------------|------------|------------|------------|------------|
| | 2015 | 2016 | 2017 | 2018 | 2019 |
| | | | | | |
| Capital Expenditures | 13,509,900 | 11,627,000 | 12,372,000 | 12,476,000 | 10,761,000 |
| Depreciation Expense | 4,491,588 | 4,847,338 | 5,000,972 | 5,203,071 | 5,370,697 |
| Multiple | 3 | 2 | 2 | 2 | 2 |

The pace of capital expenditures continues to be at approximately two to three times the level of annual depreciation expense which places financial pressure on OPUCN's ability to generate reasonable returns on its deemed equity unless rates are adjusted in accordance with the Custom IR approach. In addition to the lag on returns associated with the capital expenditures, the annual increase in depreciation expense out paces the increase in operating revenue received under an IRM rate regime.

Table 3-14 identifies the increase in rate base resulting from OPUCN's capital requirements and the related shortfall in deemed ROE resulting from an IRM rate model.

TABLE 3-14 - CALCULATIONS FOR BOARD-APPROVED DEEMED ROE AND ROE DEFICIENCY

| | Test Years | | | | |
|----------------------------------|----------------|----------------|----------------|----------------|----------------|
| | 2015 | 2016 | 2017 | 2018 | 2019 |
| Rate Base | \$ 104,990,575 | \$ 112,852,919 | \$ 119,890,558 | \$ 127,127,943 | \$ 133,201,327 |
| Deemed Equity | 40% | 40% | 40% | 40% | 40% |
| ROE | 9.30% | 9.30% | 9.30% | 9.30% | 9.30% |
| Deemed Net Income | \$ 3,905,649 | \$ 4,198,129 | \$ 4,459,929 | \$ 4,729,159 | \$ 4,955,089 |
| Off Ramp Dead Band - Upper +3.0% | \$ 5,165,536 | \$ 5,552,364 | \$ 5,898,615 | \$ 6,254,695 | \$ 6,553,505 |
| Off Ramp Dead Band - Lower -3.0% | \$ 2,645,762 | \$ 2,843,894 | \$ 3,021,242 | \$ 3,203,624 | \$ 3,356,673 |
| Forecast Net Income Under IRM | | \$ 3,252,893 | \$ 3,435,339 | \$ 3,418,716 | \$ 3,884,099 |
| Deemed ROE | | 7.21% | 7.16% | 6.72% | 7.29% |
| Deemed ROE Deficiency | | -2.09% | -2.14% | -2.58% | -2.01% |

The increase in operating revenue forecast for 2016 through 2019, under the Custom IR rate mechanism, compared with 2015 is presented in the following table:

| | Test Years | | | | |
|--|------------|------------|------------|------------|------------|
| | 2015 | 2016 | 2017 | 2018 | 2019 |
| Operating Revenue at Proposed Rates | 21,565,264 | 23,547,653 | 24,391,239 | 25,605,243 | 26,193,843 |
| Percent Increase from Prior Year | | 9.19% | 3.58% | 4.98% | 2.30% |
| Percent Increase from Prior Year Adjusted for IFRS Transition Balance | | 6.26% | 3.58% | 4.98% | 2.30% |
| Cumulative Average Annual Percent Increase from 2015 Adjusted for IFRS | | 6.26% | 4.91% | 4.93% | 4.27% |

Operating revenue in 2015 included a reduction to Depreciation Expense resulting from an adjustment to net fixed assets in accordance with OPUCN's adoption of modified IFRS in 2012 under the Board's guidelines. The amount of the expense reduction was

\$595,125 and the variance account where the transition amount was recorded in 2012 was cleared by the end of 2015. For comparison, the operating revenue for 2015 was increased by \$595,125 to calculate the Percent Increase from Prior Year Adjusted for IFRS Transition Account and Cumulative Average Annual Percent Increase from 2015 Adjusted for IFRS in the table above.

Operating revenue increases by a cumulative average annual percentage rate of 4.27% from 2015 to 2019.

WEATHER NORMALIZED LOAD AND CUSTOMER/CONNECTION FORECAST

The purpose of this evidence is to present:

1. The methodology used by OPUCN to predict future load forecasts and estimated customer connections; and
2. The resulting data ("Load Forecast") employed in designing proposed electricity distribution rates included in this Custom IR Rate Application for the years 2015 through 2019 inclusive.

METHODOLOGY

A multiple regression analysis was used to develop an equation describing the relationship between monthly actual energy purchases and other explanatory variables determined to influence the consumption of electricity. In determining a prediction model, OPUCN has used a regression analysis methodology similar to that included in its approved 2012 cost of service application, and the methodology used by a number of other distributors in past and current applications.

With regard to the overall process of load forecasting, OPUCN submits that conducting a regression analysis based on historical electricity purchases to produce an equation that predicts future purchases is appropriate for the purpose of designing electricity distribution rates.

The methodology uses monthly wholesale deliveries for the period January 2003 to December 2013, as metered in kWh's at the wholesale points of delivery, to represent

electricity purchases. Monthly total wholesale electricity purchases are used rather than monthly class specific consumption, due to constraints in compiling applicable data.

Using a regression analysis, these purchases are related to other monthly explanatory variables that are believed to influence the amount of electricity consumed by OPUCN's customers such as; heating degree days ("HDD"), cooling degree days ("CDD") and unemployment rates for Oshawa which occur during the same timeframe. The results of the regression analysis produce an equation that predicts wholesale electricity purchases based on historical purchases and other explanatory variables that occur simultaneously.

This prediction model is then used as the basis to forecast the total level of OPUCN wholesale electricity purchases for the 2014 bridge year ("Bridge Year") and 2015 through 2019 test years ("Test Years") which are then allocated to kWh's billed for each customer rate class based upon geometric or historic trends.

Due to circumstances arising from conditions not anticipated in the prediction model, OPUCN applied the following Steps to generate the data for its Load Forecast:

1. As noted above, OPUCN initially ran a regression analysis based upon historical electricity purchases and other explanatory variables for the years 2003 through 2013 inclusively to produce a "Base Case Model" for all forecasted volumes.
2. The forecasts developed from the Base Case Model were adjusted thereafter for the following conditions not anticipated in the prediction model:
 - a. Anticipated population growth in the City of Oshawa that is higher than its historical patterns since 2003.
 - b. The impact of CDM savings outlined for OPUCN in the *Conservation First Framework LDC Tool Kit (Draft VI – August 12, 2014)* issued by the Ontario Power Authority (OPA). The target CDM savings were divided into two classifications:
 - i. The City of Oshawa is planning to install LED lamps to replace all current street lights in Oshawa. The forecasted savings from this

initiative are attributed to the street light rate class only and have been subtracted from the overall CDM target savings; and

- ii. The remaining CDM target savings are allocated to all other rate classes based upon the rate class's proportionate share of total billed consumption (excluding street lights).

A more detailed explanation of the process is provided later in this evidence.

Although, among certain stakeholders, the preferred regression analysis methodology is to develop equations for each customer rate category to predict monthly consumption data, there are several constraints with respect to the availability of data that has to be considered when developing the weather normalized load forecast methodology and process for OPUCN.

Cycle billing and bi-monthly versus monthly billing processes are examples of constraints that make it difficult to produce the data required to develop individual rate class models to predict future consumption. OPUCN employed bi-monthly billing practices in 2003 and 2004, and since that time utilized a cycle billing process.

Under cycle billing, customers are billed at monthly intervals whereby invoices are prepared on each working day of the month and issued to a designated subset of OPUCN's total base of customers. The cycle is the monthly interval between billings. A billing cycle may start on any day of the month and end approximately 30 days later: for example, one billing cycle starts on the 1st day of a month and ends on the 30th day of that same month; while another cycle begins on the 15th of a month and ends on the 14th of the following month. Billing cycles vary in lengths, ranging from 27 to 33 days and may not necessarily line up with calendar months.

OPUCN submits that conducting a regression analysis which relates the monthly billed kWh's of a class to other monthly explanatory variables is problematic. The monthly kWh's billed to OPUCN's customers does not generally reflect the amount consumed in a calendar month. There is a lag between the amount consumed and the amount billed which is caused by a number of issues that include monthly billing cycle meter reading schedules whose reading dates vary and typically are not in line with calendar months.

The amount billed could include consumption from the prior month or even earlier, or may be estimates based upon prior year's consumption.

As a result, a calendared time series of monthly billed kWh's by rate class that aligns with monthly data used for the explanatory variables is not currently available and would be extremely difficult to produce. Although smart meters have been deployed since 2010/2011, OPUCN feels there isn't sufficient data available at this point to be useful in regression analysis. Therefore, the Load Forecast for OPUCN is based on monthly wholesale kWh's of electricity purchased from the IESO from January 2003 to December 31, 2013.

While it may be desirable to isolate consumption determinants related to individual rate classes, this is simply not possible with the data available to OPUCN at this time. For example, using regression analysis to relate monthly billing data to a variable such as HDD would be a mismatch since the monthly interval used for billing is inconsistent with a calendar month which is the basis for HDD data.

DATA FOR LOAD FORECAST

As noted above, the results of the regression analysis were adjusted for Population Growth and CDM savings.

Population Growth

As per OPUCN's Distribution System Plan, the City of Oshawa is anticipating higher than normal population growth attributed mainly to the extension of the 407 ETR from Pickering to east of Oshawa.

The following table provides the estimated incremental customer connection forecast from the population growth by rate class:

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|--|-------------|----------|-----------------|------------|-------------|-------------|----------------|-----|-------|
| Average Annual Customer Connection Count | | | | | | | | | |
| 2014 Bridge Year (Regression) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015 Test Year (Regression) | 831 | 96 | 15 | 0 | 0 | 119 | 0 | 0 | 1,060 |
| 2016 Test Year (Regression) | 1,697 | 195 | 31 | 0 | 1 | 244 | 0 | 0 | 2,167 |
| 2017 Test Year (Regression) | 2,601 | 297 | 46 | 0 | 1 | 375 | 0 | 0 | 3,321 |
| 2018 Test Year (Regression) | 3,543 | 403 | 63 | 0 | 1 | 513 | 0 | 0 | 4,524 |
| 2019 Test Year (Regression) | 4,526 | 513 | 80 | 0 | 2 | 657 | 0 | 0 | 5,778 |

The Base Case Model produced an annual predicted growth rate of approximately 1.4% in customer connections for 2015 through 2019. OPUCN has increased the predicted growth rate to 3.0% upon adding the customer connections presented in the table above.

The estimated billed kWh's used to calculate consumption for the predicted population growth was based upon the following weather normalized usage per customer connection (***before City Expansion and CDM***) which can be traced to the *Rate Class Energy Model* Tab of the Base Case Model:

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|--|-------------|----------|-----------------|------------|-------------|-------------|----------------|-----|--------|
| Annual Billed Energy per Average Customer Connection | | | | | | | | | |
| 2014 Bridge Year (Regression) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015 Test Year (Regression) | 9,467 | 34,325 | 718,463 | 0 | 5,940,354 | 719 | 0 | 0 | 22,434 |
| 2016 Test Year (Regression) | 9,311 | 34,191 | 734,890 | 0 | 5,351,267 | 711 | 0 | 0 | 22,517 |
| 2017 Test Year (Regression) | 9,100 | 33,845 | 747,302 | 0 | 4,794,700 | 702 | 0 | 0 | 22,122 |
| 2018 Test Year (Regression) | 8,910 | 33,565 | 761,242 | 0 | 4,302,921 | 694 | 0 | 0 | 21,950 |
| 2019 Test Year (Regression) | 8,717 | 33,261 | 774,878 | 0 | 3,859,039 | 685 | 0 | 0 | 21,739 |

Using the data from the two previous tables, OPUCN calculated the additional billed kWh's per customer connection for each rate class resulting from the predicted population growth. The following table provides the additional billed kWh's for each rate class:

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|------------|-----------------|------------|-------------|-------------|----------------|-----|-------------|
| kWh Billed | | | | | | | | | |
| 2014 Bridge Year (Regression) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015 Test Year (Regression) | 7,862,700 | 3,281,464 | 10,776,947 | 0 | 1,782,106 | 85,586 | 0 | 0 | 23,788,803 |
| 2016 Test Year (Regression) | 15,801,472 | 6,656,970 | 22,414,149 | 0 | 3,745,887 | 173,315 | 0 | 0 | 48,791,793 |
| 2017 Test Year (Regression) | 23,667,830 | 10,058,818 | 34,674,790 | 0 | 4,794,700 | 263,354 | 0 | 0 | 73,459,490 |
| 2018 Test Year (Regression) | 31,571,733 | 13,540,052 | 47,805,972 | 0 | 6,024,089 | 355,720 | 0 | 0 | 99,297,566 |
| 2019 Test Year (Regression) | 39,452,666 | 17,072,663 | 61,680,303 | 0 | 6,946,269 | 450,428 | 0 | 0 | 125,602,330 |

The final step in the process for adjusting OPUCN's Load Forecast for expected higher than normal population growth was to gross up billed kWh's by the estimated loss factor to calculate the increase in predicted purchases. The following table provides the additional predicted purchases for each rate class based upon an estimated loss factor of 4.86%:

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|------------|-----------------|------------|-------------|-------------|----------------|-----|-------------|
| 2014 Bridge Year (Regression) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015 Test Year (Regression) | 8,244,827 | 3,440,943 | 11,300,707 | 0 | 1,868,717 | 89,746 | 0 | 0 | 24,944,939 |
| 2016 Test Year (Regression) | 16,569,424 | 6,980,499 | 23,503,476 | 0 | 3,927,937 | 181,738 | 0 | 0 | 51,163,074 |
| 2017 Test Year (Regression) | 24,818,086 | 10,547,676 | 36,359,984 | 0 | 5,027,722 | 276,153 | 0 | 0 | 77,029,621 |
| 2018 Test Year (Regression) | 33,106,119 | 14,198,098 | 50,129,343 | 0 | 6,316,860 | 373,008 | 0 | 0 | 104,123,427 |
| 2019 Test Year (Regression) | 41,370,065 | 17,902,395 | 64,677,966 | 0 | 7,283,858 | 472,319 | 0 | 0 | 131,706,604 |

CDM Adjustment

On March 26, 2014, the Minister of Energy issued a *Directive* to the Ontario Energy Board (Board) in accordance with the Ministry's policy of putting conservation first in its *2013 Long-Term Energy Plan, Achieving Balance*. Included in the Directive was the following statement:

The "Minister of Energy intends to issue a direction to the Ontario Power Authority to require that it undertake activities to support the Conservation First Framework, including the funding of electricity distributor conservation and demand management programs."

The OPA, in response to the direction from the Minister of Energy, is implementing a new six year conservation framework. The *Conservation First Framework* is designed to reduce electricity consumption by 7 terawatt-hours (TWh) or seven billion kilowatt-hours (kWh) by December 31, 2020. The *Conservation First Framework* will enable Local Distribution Companies (LDCs) to submit their CDM Plans between November 2014 and May 2015.

The OPA subsequently issued their *Conservation First Framework LDC Tool Kit (Draft VI – August 12, 2014)*. The Tool Kit is divided into four main categories: 1) Targets and Budgets; 2) Rules and Guidelines; 3) Planning Process and Tools; and 4) Contract.

The following targets have been established for Oshawa as per the OPA's report:

| | | |
|--------------------------|------|-----------------|
| Oshawa PUC Networks Inc. | 73.0 | \$19,963,922 |
| TOTAL | 7000 | \$1,835,264,931 |

OPUCN is developing plans to meet the OPA's targets and has adjusted its Load Forecast accordingly. The following table provides the projected savings from OPUCN's CDM activities for the 2014 Bridge Year and 2015 through 2019 Test Years:

TABLE 3-15 - CDM SAVINGS (kWh)

| OPA Program Year | CDM Savings | | | | | |
|---------------------|-------------|------------|------------|------------|------------|------------|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Pre-2011 | 21,747,881 | 19,730,014 | 18,946,290 | 16,748,951 | 14,366,129 | 13,626,336 |
| 2011 | 2,584,000 | 2,584,000 | 2,584,000 | 2,584,000 | 2,584,000 | 2,584,000 |
| 2012 | 3,995,000 | 3,995,000 | 3,995,000 | 3,995,000 | 3,995,000 | 3,995,000 |
| 2013 | 2,624,000 | 2,624,000 | 2,624,000 | 2,624,000 | 2,624,000 | 2,624,000 |
| 2014 | 3,713,000 | 7,426,000 | 7,426,000 | 7,426,000 | 7,426,000 | 7,426,000 |
| 2015 | | 5,128,000 | 10,256,000 | 10,256,000 | 10,256,000 | 10,256,000 |
| 2016 | | | 4,786,000 | 9,572,000 | 9,572,000 | 9,572,000 |
| 2017 | | | | 5,470,000 | 10,940,000 | 10,940,000 |
| 2018 | | | | | 5,811,500 | 11,623,000 |
| 2019 | | | | | | 6,153,500 |
| Sub-total | 6,337,000 | 15,178,000 | 25,092,000 | 35,348,000 | 46,629,500 | 58,594,500 |
| LED Streetlights | | 2,420,722 | 4,881,744 | 4,922,379 | 4,963,352 | 5,004,666 |
| Net | 6,337,000 | 12,757,278 | 20,210,256 | 30,425,621 | 41,666,148 | 53,589,834 |

The total savings in 2019 from CDM activities totals 64.8 GWh's (58.6 GWh from Sub-total line plus 6.2 for half-year rule applied to 2019 programs). 10.1 GWh's persist from CDM activities in 2013 (half-year applied) and 2014. The remaining 54.7 GWh's were taken directly from the OPA's preliminary forecast of energy savings in the 2015 to 2020 framework shown below.

| LDC: Oshawa PUC Networks Inc. | | | | | | | | | | |
|---|-------|-------|-------|--------|----------------------------|-------|--------|--------|--------|--------|
| Incremental Net Energy Savings & Targets Assigned Summary (MWh) | | | | | | | | | | |
| | 2011 | 2012 | 2013 | 2014* | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Consumer Program | 1,547 | 913 | 834 | 1,098 | | | | | | |
| Business Program | 929 | 2,676 | 4,281 | 5,981 | | | | | | |
| Industrial Program | - | - | 2 | 2 | | | | | | |
| Home Assistance Program | - | - | 131 | 174 | | | | | | |
| Aboriginal Program | - | - | - | - | | | | | | |
| Pre-2011 Programs | 107 | 1 | - | 36 | | | | | | |
| Other* | - | 404 | - | 135 | | | | | | |
| Residential Programs | | | | | 4,956 | 4,626 | 5,287 | 5,617 | 5,947 | 6,608 |
| Non-residential Programs | | | | | 5,300 | 4,946 | 5,653 | 6,006 | 6,360 | 7,066 |
| Total | 2,564 | 3,995 | 5,248 | 7,426 | 10,256 | 9,572 | 10,940 | 11,623 | 12,307 | 13,675 |
| Variance to meet 2011-14 savings target** | | | | 19,085 | Allocated CDM Target (GWh) | | | | | |
| | | | | | | | | | | 68.4 |

* Other includes Program Enabled Savings and Adjustments
** Includes Demand Response
† 2014 savings are forecasted based on past performance

The initial target for OPUCN established in the OPA's preliminary report was 68.4 GWh's which has since been increased to 73.0 GWh's as per the OPA's *Conservation First Framework LDC Tool Kit (Draft VI – August 12, 2014)* shown below. However, OPUCN has not adjusted its Load Forecast for this increase.

As noted above and presented in Table 3-15, OPUCN calculated savings from the City of Oshawa's plans to replace street lights with LED lamps and included in their CDM plans. The CDM savings from LED lamps were allocated to the street light rate class entirely.

The City of Oshawa is planning to replace 100% of its street lights in 2015 under the Province's CDM Program.

The LED lights are expected to reduce demand by 50% and consume 50% less electricity than that required for the current street lights. The Load Forecast assumes the lights will take a year to be replaced therefore half of the savings have been predicted for 2015 and 100% for the remaining Test Years.

The following table summarizes the estimated savings achieved and the impact on OPUCN's Load Forecast from the installation of LED lights in Oshawa:

| Description | Average Connections | kWh | kW | kWh | kW | Purchases | Adjusted Purchases | Adjusted Purchases |
|-------------------------------|---------------------|-----------|--------|-----------|--------|------------|--------------------|--------------------|
| 2014 Bridge Year (Regression) | 12,581 | 9,157,883 | 24,692 | 9,157,883 | 24,692 | 9,602,956 | 9,602,956 | 0 |
| 2015 Test Year (Regression) | 12,958 | 9,234,112 | 24,898 | 6,925,584 | 18,673 | 9,682,889 | 7,262,167 | 2,420,722 |
| 2016 Test Year (Regression) | 13,347 | 9,310,975 | 25,105 | 4,655,487 | 12,552 | 9,763,488 | 4,881,744 | 4,881,744 |
| 2017 Test Year (Regression) | 13,747 | 9,388,477 | 25,314 | 4,694,239 | 12,657 | 9,844,757 | 4,922,379 | 4,922,379 |
| 2018 Test Year (Regression) | 14,160 | 9,466,625 | 25,525 | 4,733,313 | 12,762 | 9,926,703 | 4,963,352 | 4,963,352 |
| 2019 Test Year (Regression) | 14,585 | 9,545,423 | 25,737 | 4,772,712 | 12,869 | 10,009,331 | 5,004,666 | 5,004,666 |

The remaining CDM savings were allocated to all other rate classes based upon the rate class's proportionate share of total billed consumption (excluding street lights).

From the table above, OPUCN has adjusted its Load Forecast for projected power purchases as follows:

| Description | Total Billed | Power Purchased |
|-------------------------------|--------------|-----------------|
| <i>CDM</i> | | |
| 2014 Bridge Year (Regression) | 6,337,000 | 6,644,978 |
| 2015 Test Year (Regression) | 12,757,278 | 13,377,281 |
| 2016 Test Year (Regression) | 20,210,256 | 21,192,474 |
| 2017 Test Year (Regression) | 30,425,621 | 31,904,307 |
| 2018 Test Year (Regression) | 41,666,148 | 43,691,123 |
| 2019 Test Year (Regression) | 53,589,834 | 56,194,300 |

The calculation for the adjustment to the Load Forecast is based upon: (i) 50% of the CDM savings from the year the program is implemented; (ii) 100% of the savings from prior years' programs; and, aggregate savings are grossed up by OPUCN's loss factor.

Load Forecast

The following Tables 3-16, 3-17, 3-18, 3-19 and 3-20 provide a snapshot of the data used to support the Load Forecast provided by OPUCN in this Application.

Table 3-16 includes actual energy purchases for the years 2003 to 2013 and predicted energy purchases forecasted for the Bridge Year and Test Years. For comparison, predicted results from the regression model are also included for the years 2003 to 2013.

Total customer connection counts are represented by an average of the number of customers billed in the month of December for two consecutive years; and, streetlights, sentinel lights and unmetered scattered loads ("USL") are each measured as connections.

For each rate class, actual and forecasted: (i) customer connections billed in December are shown in Table 3-17 and annual average customer connections billed are presented in Table 3-17A; (ii) billed consumption is shown in Table 3-18; (iii) average billed consumption per average customer connection is shown in Table 3-19; and, (iv) year over year percent change in average billed consumption per customer is shown in Table 3-20.

TABLE 3-16 - SUMMARY OF ANNUAL ENERGY PURCHASES AND CUSTOMER CONNECTIONS

| Description | Purchased kWh's per IESO | Change | % Change | Cumulative Average Rate of Change | Customer Connection Count | Change | % Change | Cumulative Average Rate of Change |
|-------------------------------|--------------------------|-------------|----------|-----------------------------------|---------------------------|--------|----------|-----------------------------------|
| 2008 Board Approved | 1,192,455,603 | -33,573,677 | -2.8% | | 63,653 | -309 | -0.5% | |
| 2012 Board Approved | 1,161,936,612 | -25,724,659 | -2.2% | | 67,507 | -1,580 | -2.3% | |
| | | | | | | | | |
| 2003 | 1,232,724,170 | | | | 57,961 | | | |
| 2004 | 1,178,441,190 | -54,282,980 | -4.4% | -4.4% | 58,731 | 770 | 1.3% | 1.3% |
| 2005 | 1,174,501,350 | -3,939,840 | -0.3% | -2.4% | 59,615 | 884 | 1.5% | 1.4% |
| 2006 | 1,151,360,440 | -23,140,910 | -2.0% | -2.3% | 60,873 | 1,258 | 2.1% | 1.6% |
| 2007 | 1,191,153,590 | 39,793,150 | 3.5% | -0.9% | 62,211 | 1,339 | 2.2% | 1.8% |
| 2008 | 1,158,881,926 | -32,271,664 | -2.7% | -1.2% | 63,345 | 1,134 | 1.8% | 1.8% |
| 2009 | 1,128,390,785 | -30,491,141 | -2.6% | -1.5% | 64,128 | 784 | 1.2% | 1.7% |
| 2010 | 1,148,489,332 | 20,098,547 | 1.8% | -1.0% | 64,894 | 766 | 1.2% | 1.6% |
| 2011 | 1,148,632,387 | 143,056 | 0.0% | -0.9% | 65,525 | 631 | 1.0% | 1.5% |
| 2012 | 1,136,211,953 | -12,420,435 | -1.1% | -0.9% | 65,927 | 403 | 0.6% | 1.4% |
| 2013 | 1,130,407,042 | -5,804,911 | -0.5% | -0.9% | 66,572 | 645 | 1.0% | 1.4% |
| 2014 Bridge Year (Regression) | 1,146,348,132 | 15,941,090 | 1.4% | -0.7% | 67,512 | 941 | 1.4% | 1.4% |
| 2015 Test Year (Regression) | 1,161,409,406 | 15,061,274 | 1.3% | -0.5% | 69,527 | 2,015 | 3.0% | 1.5% |
| 2016 Test Year (Regression) | 1,179,453,259 | 18,043,854 | 1.6% | -0.3% | 71,603 | 2,076 | 3.0% | 1.6% |
| 2017 Test Year (Regression) | 1,191,117,842 | 11,664,582 | 1.0% | -0.2% | 73,741 | 2,138 | 3.0% | 1.7% |
| 2018 Test Year (Regression) | 1,205,768,874 | 14,651,033 | 1.2% | -0.1% | 75,943 | 2,202 | 3.0% | 1.8% |
| 2019 Test Year (Regression) | 1,220,192,559 | 14,423,685 | 1.2% | -0.1% | 78,212 | 2,268 | 3.0% | 1.9% |

Highlighted in Table 3-16 are the Board-Approved load forecasts used to inform rates which can be compared with actual results. The Board-Approved results were determined from OPUCN's cost of service applications for 2008 and 2012. In both cases, as reported in the Change Column, the Board's Decisions assigned higher results than those actually realized and negatively impacted the financial position of OPUCN. The Board-Approved load forecasts also negatively affected Billed Energy (Table 3-18).

TABLE 3-17 - NUMBER OF CUSTOMER CONNECTIONS AT DECEMBER 31ST BY RATE CLASS

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|------------------------------------|-------------|----------|-----------------|------------|-------------|-------------|----------------|-----|--------|
| Year-end Customer Connection Count | | | | | | | | | |
| 2008 Board Approved | 47,243 | 3,845 | 522 | 2 | 9 | 11,650 | 77 | 305 | 63,653 |
| 2012 Board Approved | 49,920 | 3,961 | 518 | 1 | 10 | 12,762 | 22 | 313 | 67,507 |
| | | | | | | | | | |
| 2002 | 42,960 | 3,701 | 573 | 2 | 5 | 9,967 | 38 | 291 | 57,537 |
| 2003 | 43,679 | 3,677 | 545 | 3 | 5 | 10,151 | 31 | 293 | 58,384 |
| 2004 | 44,280 | 3,576 | 515 | 2 | 7 | 10,373 | 29 | 295 | 59,077 |
| 2005 | 44,917 | 3,748 | 528 | 2 | 8 | 10,624 | 30 | 295 | 60,152 |
| 2006 | 45,961 | 3,733 | 522 | 2 | 9 | 11,038 | 27 | 301 | 61,593 |
| 2007 | 46,679 | 3,765 | 524 | 2 | 9 | 11,523 | 26 | 301 | 62,829 |
| 2008 | 47,436 | 3,822 | 543 | 3 | 9 | 11,720 | 26 | 301 | 63,860 |
| 2009 | 47,769 | 3,897 | 507 | 1 | 10 | 11,882 | 26 | 304 | 64,396 |
| 2010 | 48,460 | 3,961 | 518 | 1 | 10 | 12,109 | 24 | 309 | 65,392 |
| 2011 | 48,841 | 3,816 | 523 | 1 | 10 | 12,146 | 24 | 296 | 65,657 |
| 2012 | 49,201 | 3,885 | 500 | 1 | 11 | 12,280 | 24 | 295 | 66,197 |
| 2013 | 49,821 | 3,919 | 500 | 1 | 11 | 12,375 | 24 | 295 | 66,946 |

TABLE 3-17A - AVERAGE ANNUAL NUMBER OF CUSTOMER CONNECTIONS BY RATE CLASS

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|--|-------------|----------|-----------------|------------|-------------|-------------|----------------|-----|--------|
| Average Annual Customer Connection Count | | | | | | | | | |
| 2008 Board Approved | 47,243 | 3,845 | 522 | 2 | 9 | 11,650 | 77 | 305 | 63,653 |
| 2012 Board Approved | 49,920 | 3,961 | 518 | 1 | 10 | 12,762 | 22 | 313 | 67,507 |
| | | | | | | | | | |
| 2003 | 43,320 | 3,689 | 559 | 3 | 5 | 10,059 | 35 | 292 | 57,961 |
| 2004 | 43,980 | 3,627 | 530 | 3 | 6 | 10,262 | 30 | 294 | 58,731 |
| 2005 | 44,599 | 3,662 | 522 | 2 | 8 | 10,499 | 30 | 295 | 59,615 |
| 2006 | 45,439 | 3,741 | 525 | 2 | 9 | 10,831 | 29 | 298 | 60,873 |
| 2007 | 46,320 | 3,749 | 523 | 2 | 9 | 11,281 | 27 | 301 | 62,211 |
| 2008 | 47,058 | 3,794 | 534 | 3 | 9 | 11,622 | 26 | 301 | 63,345 |
| 2009 | 47,603 | 3,860 | 525 | 2 | 10 | 11,801 | 26 | 303 | 64,128 |
| 2010 | 48,115 | 3,929 | 513 | 1 | 10 | 11,996 | 25 | 307 | 64,894 |
| 2011 | 48,651 | 3,889 | 521 | 1 | 10 | 12,128 | 24 | 303 | 65,525 |
| 2012 | 49,021 | 3,851 | 512 | 1 | 11 | 12,213 | 24 | 296 | 65,927 |
| 2013 | 49,511 | 3,902 | 500 | 1 | 11 | 12,328 | 24 | 295 | 66,572 |
| 2014 Bridge Year (Regression) | 50,177 | 3,924 | 500 | 1 | 11 | 12,581 | 23 | 295 | 67,512 |
| 2015 Test Year (Regression) | 51,682 | 4,042 | 515 | 1 | 11 | 12,958 | 22 | 296 | 69,527 |
| 2016 Test Year (Regression) | 53,233 | 4,163 | 531 | 1 | 12 | 13,347 | 22 | 296 | 71,603 |
| 2017 Test Year (Regression) | 54,830 | 4,288 | 546 | 1 | 12 | 13,747 | 21 | 296 | 73,741 |
| 2018 Test Year (Regression) | 56,474 | 4,416 | 563 | 1 | 12 | 14,160 | 20 | 297 | 75,943 |
| 2019 Test Year (Regression) | 58,169 | 4,549 | 580 | 1 | 13 | 14,585 | 19 | 297 | 78,212 |

TABLE 3-18 - BILLED ENERGY BY RATE CLASS

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|-------------|-----------------|-------------|-------------|-------------|----------------|-----------|---------------|
| kWh Billed | | | | | | | | | |
| 2008 Board Approved | 487,192,399 | 140,097,188 | 358,858,375 | 60,139,982 | 80,956,601 | 10,072,853 | 40,813 | 3,841,944 | 1,141,200,155 |
| 2012 Board Approved | 496,447,375 | 132,319,612 | 359,363,080 | 33,402,763 | 78,175,306 | 11,044,796 | 38,567 | 3,208,501 | 1,114,000,000 |
| 2003 | 457,616,904 | 121,224,653 | 281,244,126 | 169,257,213 | 96,172,091 | 8,359,781 | 45,541 | 2,920,000 | 1,136,840,308 |
| 2004 | 448,138,859 | 129,998,490 | 360,631,980 | 112,144,196 | 65,676,068 | 8,743,099 | 27,821 | 2,940,000 | 1,128,300,513 |
| 2005 | 485,961,504 | 135,909,028 | 361,962,669 | 62,904,833 | 67,016,961 | 9,182,978 | 43,197 | 2,950,000 | 1,125,931,170 |
| 2006 | 466,401,366 | 134,155,770 | 357,086,593 | 59,654,446 | 80,518,764 | 9,398,525 | 42,595 | 2,205,188 | 1,109,463,247 |
| 2007 | 473,023,155 | 132,346,004 | 359,144,720 | 61,811,846 | 103,869,997 | 9,704,521 | 41,408 | 3,818,865 | 1,143,760,516 |
| 2008 | 470,718,851 | 131,868,017 | 352,632,150 | 46,461,021 | 102,433,272 | 9,725,840 | 39,233 | 3,372,873 | 1,117,251,257 |
| 2009 | 467,977,819 | 128,019,505 | 349,784,301 | 36,580,289 | 87,237,589 | 10,202,758 | 36,792 | 2,825,455 | 1,082,664,508 |
| 2010 | 476,941,035 | 131,282,103 | 355,234,224 | 33,402,763 | 80,783,141 | 10,427,904 | 35,812 | 2,831,501 | 1,090,938,483 |
| 2011 | 484,582,022 | 135,695,878 | 359,534,375 | 37,740,699 | 79,908,016 | 10,253,017 | 35,812 | 2,769,028 | 1,110,518,847 |
| 2012 | 473,288,468 | 131,590,801 | 338,342,507 | 40,812,737 | 76,828,137 | 10,139,708 | 35,812 | 2,745,701 | 1,073,783,871 |
| 2013 | 475,282,449 | 132,382,128 | 337,123,668 | 42,326,219 | 79,176,233 | 9,082,284 | 35,812 | 2,752,416 | 1,078,161,209 |
| 2014 Bridge Year (Regression) | 481,054,885 | 134,663,866 | 349,725,891 | 43,637,356 | 72,223,027 | 9,157,883 | 34,756 | 2,720,085 | 1,093,217,749 |
| 2015 Test Year (Regression) | 483,663,532 | 137,144,452 | 365,803,341 | 44,988,087 | 66,360,781 | 6,898,975 | 33,730 | 2,688,072 | 1,107,580,970 |
| 2016 Test Year (Regression) | 486,758,735 | 139,823,685 | 383,057,156 | 46,339,336 | 61,520,302 | 4,602,545 | 32,705 | 2,654,071 | 1,124,788,537 |
| 2017 Test Year (Regression) | 485,640,571 | 141,342,094 | 397,878,346 | 47,612,969 | 56,063,419 | 4,729,452 | 31,633 | 2,614,011 | 1,135,912,494 |
| 2018 Test Year (Regression) | 485,086,336 | 143,067,915 | 413,841,565 | 48,880,609 | 51,546,101 | 4,858,993 | 30,570 | 2,572,397 | 1,149,884,488 |
| 2019 Test Year (Regression) | 483,951,299 | 144,664,011 | 430,008,488 | 50,156,999 | 47,307,974 | 4,991,186 | 29,529 | 2,530,185 | 1,163,639,671 |

TABLE 3-19 - ANNUAL BILLED ENERGY PER AVERAGE CUSTOMER CONNECTION BY RATE CLASS

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|--|-------------|----------|-----------------|------------|-------------|-------------|----------------|--------|--------|
| Annual Billed Energy per Average Customer Connection | | | | | | | | | |
| 2008 Board Approved | 10,312 | 36,436 | 687,468 | 30,069,991 | 8,995,178 | 865 | 530 | 12,597 | 17,928 |
| 2012 Board Approved | 9,945 | 33,406 | 693,751 | 33,402,763 | 7,817,531 | 865 | 1,729 | 10,248 | 16,502 |
| 2003 | 10,564 | 32,861 | 503,120 | 67,702,885 | 19,234,418 | 831 | 1,320 | 10,000 | 19,614 |
| 2004 | 10,190 | 35,847 | 680,438 | 44,857,678 | 10,946,011 | 852 | 927 | 10,000 | 19,211 |
| 2005 | 10,896 | 37,113 | 694,080 | 31,452,417 | 8,935,595 | 875 | 1,464 | 10,000 | 18,887 |
| 2006 | 10,264 | 35,866 | 680,165 | 29,827,223 | 9,472,796 | 868 | 1,495 | 7,400 | 18,226 |
| 2007 | 10,212 | 35,302 | 686,701 | 30,905,923 | 11,541,111 | 860 | 1,563 | 12,687 | 18,385 |
| 2008 | 10,003 | 34,762 | 660,979 | 18,584,408 | 11,381,475 | 837 | 1,509 | 11,206 | 17,638 |
| 2009 | 9,831 | 33,170 | 666,256 | 18,290,145 | 9,182,904 | 865 | 1,415 | 9,340 | 16,883 |
| 2010 | 9,913 | 33,414 | 693,140 | 33,402,763 | 8,078,314 | 869 | 1,432 | 9,238 | 16,811 |
| 2011 | 9,960 | 34,897 | 690,748 | 37,740,699 | 7,990,802 | 845 | 1,492 | 9,154 | 16,948 |
| 2012 | 9,655 | 34,175 | 661,471 | 40,812,737 | 7,316,965 | 830 | 1,492 | 9,292 | 16,287 |
| 2013 | 9,600 | 33,927 | 674,247 | 42,326,219 | 7,197,839 | 737 | 1,492 | 9,330 | 16,196 |
| 2014 Bridge Year (Regression) | 9,643 | 34,519 | 703,540 | 43,895,826 | 6,604,145 | 728 | 1,511 | 9,266 | 16,287 |
| 2015 Test Year (Regression) | 9,467 | 34,325 | 718,463 | 45,523,640 | 5,940,354 | 719 | 1,529 | 9,202 | 16,051 |
| 2016 Test Year (Regression) | 9,311 | 34,191 | 734,890 | 47,211,819 | 5,351,267 | 711 | 1,548 | 9,138 | 15,858 |
| 2017 Test Year (Regression) | 9,100 | 33,845 | 747,302 | 48,962,602 | 4,794,700 | 702 | 1,567 | 9,075 | 15,589 |
| 2018 Test Year (Regression) | 8,910 | 33,565 | 761,242 | 50,778,310 | 4,302,921 | 694 | 1,586 | 9,012 | 15,363 |
| 2019 Test Year (Regression) | 8,717 | 33,261 | 774,878 | 52,661,351 | 3,859,039 | 685 | 1,606 | 8,950 | 15,140 |

TABLE 3-20 – PERCENT CHANGE IN ANNUAL BILLED ENERGY PER CUSTOMER CONNECTION BY RATE CLASS

| Description | Residential | GS <50 kW | GS 50 to 999 kW | Large User | GS >1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|-----------|-----------------|------------|--------------|-------------|----------------|--------|--------|
| Annual Percent Change | | | | | | | | | |
| 2004 | 96.5% | 109.1% | 135.2% | 66.3% | 56.9% | 102.5% | 70.3% | 100.0% | 97.9% |
| 2005 | 106.9% | 103.5% | 102.0% | 70.1% | 81.6% | 102.7% | 157.9% | 100.0% | 98.3% |
| 2006 | 94.2% | 96.6% | 98.0% | 94.8% | 106.0% | 99.2% | 102.1% | 74.0% | 96.5% |
| 2007 | 99.5% | 98.4% | 101.0% | 103.6% | 121.8% | 99.1% | 104.6% | 171.5% | 107.9% |
| 2008 | 98.0% | 98.5% | 96.3% | 60.1% | 98.6% | 97.3% | 96.6% | 88.3% | 95.9% |
| 2009 | 98.3% | 95.4% | 100.8% | 98.4% | 80.7% | 103.3% | 93.8% | 83.4% | 95.7% |
| 2010 | 100.8% | 100.7% | 104.0% | 182.6% | 88.0% | 100.5% | 101.2% | 98.9% | 99.6% |
| 2011 | 100.5% | 104.4% | 99.7% | 113.0% | 98.9% | 97.3% | 104.2% | 99.1% | 100.8% |
| 2012 | 96.9% | 97.9% | 95.8% | 108.1% | 91.6% | 98.2% | 100.0% | 101.5% | 96.1% |
| 2013 | 99.4% | 99.3% | 101.9% | 103.7% | 98.4% | 88.7% | 100.0% | 100.4% | 99.4% |
| Geometric Mean (Ignored 2004) | 99.0% | 100.3% | 103.0% | 95.4% | 90.6% | 98.8% | 101.2% | 99.3% | 98.8% |
| 2014 Bridge Year (Regression) | 100.5% | 101.7% | 104.3% | 103.7% | 91.8% | 98.8% | 101.2% | 99.3% | 100.6% |
| 2015 Test Year (Regression) | 98.2% | 99.4% | 102.1% | 103.7% | 89.9% | 98.8% | 101.2% | 99.3% | 98.6% |
| 2016 Test Year (Regression) | 98.3% | 99.6% | 102.3% | 103.7% | 90.1% | 98.8% | 101.2% | 99.3% | 98.8% |
| 2017 Test Year (Regression) | 97.7% | 99.0% | 101.7% | 103.7% | 89.6% | 98.8% | 101.2% | 99.3% | 98.3% |
| 2018 Test Year (Regression) | 97.9% | 99.2% | 101.9% | 103.7% | 89.7% | 98.8% | 101.2% | 99.3% | 98.5% |
| 2019 Test Year (Regression) | 97.8% | 99.1% | 101.8% | 103.7% | 89.7% | 98.8% | 101.2% | 99.3% | 98.5% |

LOAD FORECAST METHODOLOGY

OPUCN's Load Forecast was developed using a three-step process:

1. As explained above, a total system purchased energy forecast was developed based on a multifactor regression model that incorporated historical energy purchases, weather factors, calendar-related events and economic activity – OPUCN determined the Oshawa unemployment rate provided the most appropriate results. The multifactor regression model was adjusted to account for: an increase in the population growth above historical norms; the impact of non-specific CDM programs; and the effect from the City of Oshawa replacing current street lights with LED lamps.
2. The purchased energy forecast was adjusted by a historical loss factor to produce a billed energy forecast.
3. The forecast of billed energy by rate class was developed based on a forecast of customer connection counts and historical usage patterns per customer connection. For the rate classes that have weather sensitive load, their forecasted billed energy was adjusted to ensure that the total billed energy

forecast by rate class was equivalent to the total weather normalized billed energy forecast that was determined from the regression model. The forecast of customers by rate class was determined using a geometric mean analysis. For those rate classes that use kW's for the distribution volumetric billing determinant, an adjustment factor was applied to the rate class energy forecast based on the historical relationship between kW's and kWh's.

A detailed explanation of the load forecasting process follows.

PURCHASED KWH LOAD FORECAST

As noted above, OPUCN ran a regression model that was subsequently adjusted for the impact of high population growth in the City of Oshawa and CDM activities.

An equation to predict total system purchased energy was developed using a multifactor regression model with the following attributes:

- OPUCN's historical monthly predicted kWh purchases from 2003 through 2013 as the dependent variable; and
- The following independent variables:
 - Weather data – heating and cooling degree days;
 - Calendar variables – number of days in month and seasonal spring/fall flag; and
 - Economic activity data – the unemployment rate for Oshawa.

The regression model used monthly kWh's and monthly values for the independent variables from January 2003 to December 2013 to determine the monthly regression coefficients. This model generated 132 monthly data points which OPUCN believes represents a reasonable data set for use in a regression analysis.

OPUCN submits that it is appropriate to review the impact of weather since 2003 on the energy usage, and then determine the average weather conditions from January 2003 to December 2013 which would be applied in the forecasting process to determine a weather normalized forecast. However, in accordance with the Board's Filing

Requirements, OPUCN has also provided a sensitivity analysis showing the impact on the Test Years' forecasts of purchases assuming weather normal conditions are based on a 10 year average trend and a 20 year average trend for weather data.

The multifactor regression model has determined drivers of year over year changes in OPUCN's load growth; these include, weather, calendar factors and economic activity.

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

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

In the case of OPUCN, the remaining driver that was determined to impact energy use is the unemployment rates for the city of Oshawa. Historical and future estimated unemployment rates were obtained from reports purchased from the Conference Board of Canada.

As described in detail above, the results of the regression model described above were adjusted for higher than normal population growth in the City of Oshawa and CDM savings.

The following outlines the statistical outcomes of the prediction model used by OPUCN to predict weather normal purchases for the Bridge Year and Test Years:

| Variables | Coefficients | t-stat |
|---------------------------------|---|--------|
| HDD | 40,153 | 19.53 |
| CDD | 140,439 | 9.17 |
| Number of days in the month | 2,834,531 | 6.64 |
| Spring/fall flag | (7,228,838) | (8.42) |
| Oshawa unemployment rate | (128,912,219) | (6.11) |
| Intercept | 9,279,404 | 0.71 |
| Monthly predicted kWh purchases | Dependent variable | |
| CDM | Estimated data applied subsequent to running regression | |
| LED lamps | Estimated data applied subsequent to running regression | |

The monthly data used in the regression model and the resulting monthly prediction for the actual and forecasted years are provided in Appendix 3-1.

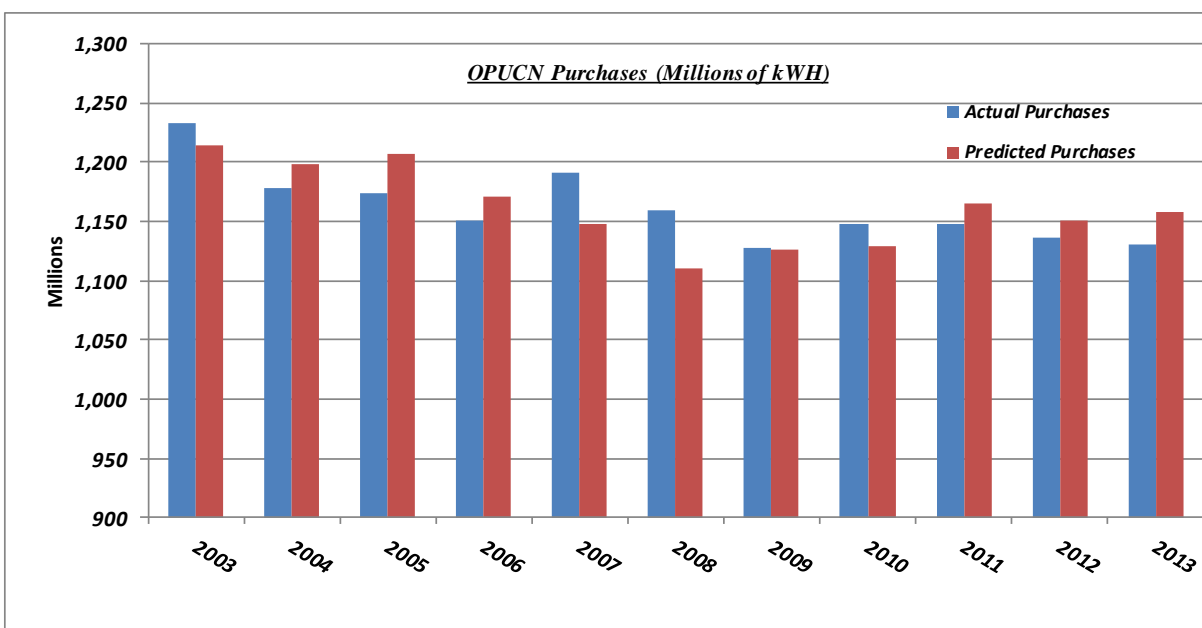
The sources of data for the various data points are:

- Environment Canada website for HDD and CDD.
- The number of days in the month and the spring/fall flag were based on a calendar year.
- Unemployment rates for the city of Oshawa were obtained from information prepared by the Conference Board of Canada.

The prediction formula generated the following statistical results:

| Regression Statistics | |
|-----------------------|-----------|
| Multiple R | 93.4% |
| R Square | 87.2% |
| Adjusted R Square | 86.7% |
| Standard Error | 3,802,572 |
| Observations | 132 |

OPUCN believes the resulting prediction equation is reasonable based on the regression statistics generated and the annual results of the above prediction formula when compared to the actual annual purchases from 2003 to 2013 which are shown in the chart below:



The following Table 3-21 outlines the data that supports the above chart. In addition, the predicted total system purchases for OPUCN are provided for the Bridge Year and Test Years. For the Bridge Year and Test Years, the system purchases reflect a weather normalized forecast for the full year.

TABLE 3-21 - kWh PURCHASES AND PREDICTED PURCHASES

| Purchased Energy (kWh) - Year | | Actual Purchases | Predicted Purchases | Difference | |
|-------------------------------|------|------------------|---------------------|-------------|-------|
| Historical | 2003 | 1,232,724,170 | 1,214,096,287 | -18,627,883 | -1.5% |
| | 2004 | 1,178,441,190 | 1,198,833,047 | 20,391,857 | 1.7% |
| | 2005 | 1,174,501,350 | 1,207,050,039 | 32,548,689 | 2.8% |
| | 2006 | 1,151,360,440 | 1,170,881,308 | 19,520,868 | 1.7% |
| | 2007 | 1,191,153,590 | 1,147,471,681 | -43,681,909 | -3.7% |
| | 2008 | 1,158,881,926 | 1,110,172,412 | -48,709,514 | -4.2% |
| | 2009 | 1,128,390,785 | 1,126,724,654 | -1,666,131 | -0.1% |
| | 2010 | 1,148,489,332 | 1,129,720,236 | -18,769,095 | -1.6% |
| | 2011 | 1,148,632,387 | 1,164,987,380 | 16,354,992 | 1.4% |
| | 2012 | 1,136,211,953 | 1,150,628,520 | 14,416,567 | 1.3% |
| | 2013 | 1,130,407,042 | 1,158,628,601 | 28,221,559 | 2.5% |
| 2014 Normalized Bridge Year | 2014 | | 1,146,348,132 | | |
| 2015 Normalized Test Year | 2015 | | 1,161,409,406 | | |
| 2016 Normalized Test Year | 2016 | | 1,179,453,259 | | |
| 2017 Normalized Test Year | 2017 | | 1,191,117,842 | | |
| 2018 Normalized Test Year | 2018 | | 1,205,768,874 | | |
| 2019 Normalized Test Year | 2019 | | 1,220,192,559 | | |

In addition, values for the Test Years are provided with 10 year trend and 20 year trend assumptions for weather normalization are included in Table 3-22.

TABLE 3-22 - kWh PURCHASES AND PREDICTED PURCHASES

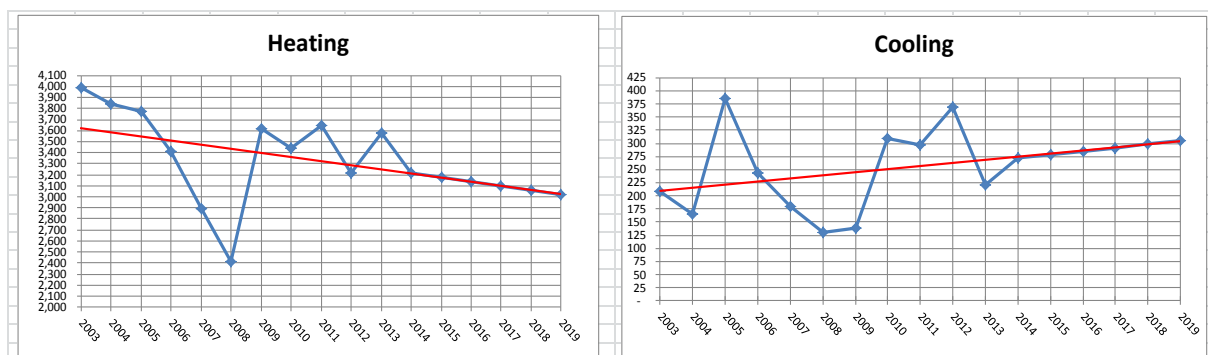
| Purchased Energy (kWh) - Year | | Actual Purchases | Normalized Test | Normalized 10 Year Average | Normalized 20 Year Trend |
|-------------------------------|------|------------------|-----------------|----------------------------|--------------------------|
| Historical | 2003 | 1,232,724,170 | 1,214,096,287 | 1,214,096,287 | 1,214,096,287 |
| | 2004 | 1,178,441,190 | 1,198,833,047 | 1,198,833,047 | 1,198,833,047 |
| | 2005 | 1,174,501,350 | 1,207,050,039 | 1,207,050,039 | 1,207,050,039 |
| | 2006 | 1,151,360,440 | 1,170,881,308 | 1,170,881,308 | 1,170,881,308 |
| | 2007 | 1,191,153,590 | 1,147,471,681 | 1,147,471,681 | 1,147,471,681 |
| | 2008 | 1,158,881,926 | 1,110,172,412 | 1,110,172,412 | 1,110,172,412 |
| | 2009 | 1,128,390,785 | 1,126,724,654 | 1,126,724,654 | 1,126,724,654 |
| | 2010 | 1,148,489,332 | 1,129,720,236 | 1,129,720,236 | 1,129,720,236 |
| | 2011 | 1,148,632,387 | 1,164,987,380 | 1,164,987,380 | 1,164,987,380 |
| | 2012 | 1,136,211,953 | 1,150,628,520 | 1,150,628,520 | 1,150,628,520 |
| | 2013 | 1,130,407,042 | 1,158,628,601 | 1,158,628,601 | 1,158,628,601 |
| 2014 Normalized Bridge Year | 2014 | | 1,146,348,132 | 1,150,460,103 | 1,145,381,907 |
| 2015 Normalized Test Year | 2015 | | 1,161,409,406 | 1,167,776,366 | 1,162,698,169 |
| 2016 Normalized Test Year | 2016 | | 1,179,453,259 | 1,188,189,234 | 1,183,111,038 |
| 2017 Normalized Test Year | 2017 | | 1,191,117,842 | 1,202,222,364 | 1,197,144,168 |
| 2018 Normalized Test Year | 2018 | | 1,205,768,874 | 1,219,351,429 | 1,214,273,233 |
| 2019 Normalized Test Year | 2019 | | 1,220,192,559 | 1,236,310,148 | 1,231,231,951 |

The weather normalized amounts for the Test Years are calculated using a linear trend (refer to charts below for linear trend analysis) of the average monthly HDD and CDD that occurred between January 2003 and December 2013 (i.e. eleven years).

The Test Years' weather normalized 10 year trend values represent the linear trend for monthly HDD and CDD that occurred between January 2004 and December 2013.

The Test Years' weather normalized 20 year trend values reflect the linear trend for monthly HDD and CDD that occurred between January 1994 and December 2013.

The weather normal linear trend for the period beginning January 2003 and ending December 2013 was used to determine the purchase forecast in this Application for the purposes of determining a billed kWh load forecast which was used to design rates. This linear trend has been used as this is consistent with the period of time over which the regression analysis was conducted. For comparison, results using 20 and 10 year average trends has been provided. The differences in purchases between the three methodologies is less than 1% per year.



The 10 year trend and 20 year trend values were also adjusted for population growth and CDM savings to provide an appropriate comparison.

BILLED KWH LOAD FORECAST

To determine the total weather normalized energy billed forecast, the total system weather normalized purchases forecast is adjusted by a historical loss factor. As outlined in this Exhibit, OPUCN's proposed loss factor is 4.86%. With this average loss factor the total weather normalized billed energy will be:

| Forecast Year | Billed Energy Consumption (kWh) |
|----------------|---------------------------------|
| Bridge Year | 1,093,217,749 |
| 2015 Test Year | 1,107,580,970 |
| 2016 Test Year | 1,124,788,537 |
| 2017 Test Year | 1,135,912,494 |
| 2018 Test Year | 1,149,884,488 |

| Forecast Year | Billed Energy Consumption (kWh) |
|----------------|------------------------------------|
| 2019 Test Year | 1,163,639,671 |

BILLED KWH LOAD FORECAST AND CUSTOMER CONNECTION FORECAST BY RATE CLASS

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

The next step in the forecasting process is to determine a customer connection forecast. The average customer connections for the years 2004 through 2013 are included in Table 3-23 below.

TABLE 3-23 - HISTORICAL AVERAGE CUSTOMER CONNECTION COUNTS

| Description | Residential | GS <50 kW | GS 50 to 999 kW | Large User | GS >1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|-----------|-----------------|------------|--------------|-------------|----------------|-----|--------|
| Annual Average Customer Count | | | | | | | | | |
| 2008 Board Approved | 47,243 | 3,845 | 522 | 2 | 9 | 11,650 | 77 | 305 | 63,653 |
| 2012 Board Approved | 49,920 | 3,961 | 518 | 1 | 10 | 12,762 | 22 | 313 | 67,507 |
| | | | | | | | | | |
| 2004 | 43,980 | 3,921 | 530 | 3 | 6 | 10,262 | 30 | 0 | 58,731 |
| 2005 | 44,599 | 3,957 | 522 | 2 | 8 | 10,499 | 30 | 0 | 59,615 |
| 2006 | 45,439 | 3,888 | 525 | 2 | 9 | 10,831 | 29 | 301 | 61,023 |
| 2007 | 46,320 | 3,749 | 523 | 2 | 9 | 11,281 | 27 | 301 | 62,211 |
| 2008 | 47,058 | 3,794 | 534 | 3 | 9 | 11,622 | 26 | 301 | 63,345 |
| 2009 | 47,603 | 3,860 | 525 | 2 | 10 | 11,801 | 26 | 303 | 64,128 |
| 2010 | 48,115 | 3,929 | 513 | 1 | 10 | 11,996 | 25 | 307 | 64,894 |
| 2011 | 48,651 | 3,889 | 521 | 1 | 10 | 12,128 | 24 | 303 | 65,525 |
| 2012 | 49,021 | 3,851 | 512 | 1 | 11 | 12,213 | 24 | 296 | 65,927 |
| 2013 | 49,511 | 3,902 | 500 | 1 | 11 | 12,328 | 24 | 295 | 66,572 |

The City of Oshawa is anticipating a spike in population growth that is higher than its historical patterns since 2003. The major reason for the growth is the expansion of the 407 ETR highway and projected development in and around the area of the expansion. After taking into account the City's plans, the customer connection results follow in Table 3-24:

TABLE 3-24 - FORECASTED CUSTOMER CONNECTION COUNTS

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|----------|-----------------|------------|-------------|-------------|----------------|-----|--------|
| Annual Average Customer Count | | | | | | | | | |
| 2008 Board Approved | 47,243 | 3,845 | 522 | 2 | 9 | 11,650 | 77 | 305 | 63,653 |
| 2012 Board Approved | 49,920 | 3,961 | 518 | 1 | 10 | 12,762 | 22 | 313 | 67,507 |
| 2014 Bridge Year (Regression) | 50,177 | 3,924 | 500 | 1 | 11 | 12,581 | 23 | 295 | 67,512 |
| 2015 Test Year (Regression) | 51,682 | 4,042 | 515 | 1 | 11 | 12,958 | 22 | 296 | 69,527 |
| 2016 Test Year (Regression) | 53,233 | 4,163 | 531 | 1 | 12 | 13,347 | 22 | 296 | 71,603 |
| 2017 Test Year (Regression) | 54,830 | 4,288 | 546 | 1 | 12 | 13,747 | 21 | 296 | 73,741 |
| 2018 Test Year (Regression) | 56,474 | 4,416 | 563 | 1 | 12 | 14,160 | 20 | 297 | 75,943 |
| 2019 Test Year (Regression) | 58,169 | 4,549 | 580 | 1 | 13 | 14,585 | 19 | 297 | 78,212 |

The Base Case Model produced an annual predicted growth rate of approximately 1.4% in total customer connections for 2015 through 2019. After taking into account the higher than normal population growth, OPUCN has increased the predicted growth rate in total customer connections by approximately 3.0%.

The next step in the process is to review the historical customer connection average consumption and to reflect this consumption per customer connection in the forecast. The following Table 3-25 provides the average annual consumption per customer connection by rate class from 2003 to 2013.

TABLE 3-25 - HISTORICAL CUSTOMER CONNECTION USAGE

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|--|-------------|----------|-----------------|------------|-------------|-------------|----------------|--------|--------|
| Annual Average Consumption per Average Customer Connection | | | | | | | | | |
| 2008 Board Approved | 10,312 | 36,436 | 687,468 | 30,069,991 | 8,995,178 | 865 | 530 | 12,597 | 17,928 |
| 2012 Board Approved | 9,945 | 33,406 | 693,751 | 33,402,763 | 7,817,531 | 865 | 1,729 | 10,248 | 16,502 |
| 2003 | 10,564 | 32,861 | 503,120 | 56,419,071 | 19,234,418 | 831 | 1,301 | 10,000 | 19,614 |
| 2004 | 10,190 | 35,842 | 680,438 | 37,381,399 | 10,946,011 | 852 | 927 | 10,000 | 19,211 |
| 2005 | 10,896 | 37,113 | 693,415 | 31,452,417 | 8,377,120 | 875 | 1,440 | 10,000 | 18,886 |
| 2006 | 10,264 | 35,861 | 680,165 | 29,827,223 | 8,946,529 | 868 | 1,469 | 7,400 | 18,226 |
| 2007 | 10,212 | 35,302 | 686,701 | 30,905,923 | 11,541,111 | 860 | 1,534 | 12,687 | 18,385 |
| 2008 | 10,003 | 34,757 | 660,360 | 15,487,007 | 11,381,475 | 837 | 1,509 | 11,206 | 17,637 |
| 2009 | 9,831 | 33,166 | 666,256 | 18,290,145 | 8,723,759 | 865 | 1,415 | 9,325 | 16,882 |
| 2010 | 9,913 | 33,414 | 692,464 | 33,402,763 | 8,078,314 | 869 | 1,432 | 9,223 | 16,811 |
| 2011 | 9,960 | 34,892 | 690,085 | 37,740,699 | 7,990,802 | 845 | 1,492 | 9,139 | 16,948 |
| 2012 | 9,655 | 34,171 | 660,825 | 40,812,737 | 6,984,376 | 830 | 1,492 | 9,276 | 16,287 |
| 2013 | 9,600 | 33,927 | 674,247 | 42,326,219 | 7,197,839 | 737 | 1,492 | 9,330 | 16,195 |

From the historical average consumption per customer connection data, the percentage change in average consumption per customer connection can be calculated. The geometric mean for the percentage change has also been calculated. That information is provided in the following Table 3-26.

TABLE 3-26 - PERCENT CHANGE IN HISTORICAL AVERAGE CONSUMPTION PER CUSTOMER CONNECTION

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-----------------------|-------------|----------|-----------------|------------|-------------|-------------|----------------|--------|--------|
| Annual Percent Change | | | | | | | | | |
| 2004 | 96.5% | 109.1% | 135.2% | 66.3% | 56.9% | 102.5% | 70.3% | 100.0% | 97.9% |
| 2005 | 106.9% | 103.5% | 102.0% | 70.1% | 81.6% | 102.7% | 157.9% | 100.0% | 98.3% |
| 2006 | 94.2% | 96.6% | 98.0% | 94.8% | 106.0% | 99.2% | 102.1% | 74.0% | 96.5% |
| 2007 | 99.5% | 98.4% | 101.0% | 103.6% | 121.8% | 99.1% | 104.6% | 171.5% | 100.9% |
| 2008 | 98.0% | 98.5% | 96.3% | 60.1% | 98.6% | 97.3% | 96.6% | 88.3% | 95.9% |
| 2009 | 98.3% | 95.4% | 100.8% | 98.4% | 80.7% | 103.3% | 93.8% | 83.4% | 95.7% |
| 2010 | 100.8% | 100.7% | 104.0% | 182.6% | 88.0% | 100.5% | 101.2% | 98.9% | 99.6% |
| 2011 | 100.5% | 104.4% | 99.7% | 113.0% | 98.9% | 97.3% | 104.2% | 99.1% | 100.8% |
| 2012 | 96.9% | 97.9% | 95.8% | 108.1% | 91.6% | 98.2% | 100.0% | 101.5% | 96.1% |
| 2013 | 99.4% | 99.3% | 101.9% | 103.7% | 98.4% | 88.7% | 100.0% | 100.4% | 99.4% |
| Rate Applied | 99.0% | 100.3% | 103.0% | 103.7% | 90.6% | 98.8% | 101.2% | 99.3% | 98.6% |
| Geometric Mean | 99.0% | 100.3% | 103.0% | 95.4% | 90.6% | 98.8% | 101.2% | 99.3% | 98.1% |

With the exception of the large user customer, the geometric mean was used as the percentage change for projecting annual average consumption for the Bridge Year and Test Years following. For the large user customer, the previous year's percentage change was considered to be more representative of the expected change.

The annual average consumption calculated in Table 3-27 below is non-weather normalized before adjusting for CDM savings.

TABLE 3-27 - FORECAST CUSTOMER CONNECTION USAGE

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|---|-------------|----------|-----------------|------------|-------------|-------------|----------------|--------|--------|
| Annual Average Consumption per Average Customer Connection (Not Normalized) | | | | | | | | | |
| 2008 Board Approved | 10,312 | 36,436 | 687,468 | 30,069,991 | 8,995,178 | 865 | 530 | 12,597 | 17,928 |
| 2012 Board Approved | 9,945 | 33,406 | 693,751 | 33,402,763 | 7,817,531 | 865 | 1,729 | 10,248 | 16,502 |
| 2014 Bridge Year (Regression) | 9,508 | 34,035 | 694,279 | 43,895,826 | 6,524,008 | 728 | 1,511 | 9,266 | 16,077 |
| 2015 Test Year (Regression) | 9,418 | 34,144 | 714,906 | 45,523,640 | 5,913,257 | 719 | 1,529 | 9,202 | 15,730 |
| 2016 Test Year (Regression) | 9,328 | 34,253 | 736,145 | 47,211,819 | 5,359,683 | 711 | 1,548 | 9,138 | 15,403 |
| 2017 Test Year (Regression) | 9,239 | 34,363 | 758,016 | 48,962,602 | 4,857,932 | 702 | 1,567 | 9,075 | 15,096 |
| 2018 Test Year (Regression) | 9,151 | 34,472 | 780,536 | 50,778,310 | 4,403,152 | 694 | 1,586 | 9,012 | 14,805 |
| 2019 Test Year (Regression) | 9,064 | 34,583 | 803,726 | 52,661,351 | 3,990,947 | 685 | 1,606 | 8,950 | 14,530 |

By applying the forecast annual average consumption in Table 3-27 to the forecast customer connection counts in Table 3-24, the non-normalized weather billed energy forecast before adjusting for CDM savings can be determined. The resulting non-normalized weather billed energy forecast is shown in Table 3-28 below.

TABLE 3-28 - FORECAST NON-WEATHER NORMALIZED BILLED ENERGY BEFORE CDM SAVINGS

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|-------------|-----------------|------------|-------------|-------------|----------------|-----------|---------------|
| Non-Normalized Billed Energy | | | | | | | | | |
| 2014 Bridge Year (Regression) | 477,086,084 | 133,552,862 | 347,139,475 | 43,895,826 | 71,764,084 | 9,157,883 | 34,962 | 2,736,196 | 1,085,367,372 |
| 2015 Test Year (Regression) | 486,717,811 | 137,998,113 | 368,176,433 | 45,523,640 | 66,819,806 | 9,319,698 | 34,131 | 2,720,071 | 1,117,309,704 |
| 2016 Test Year (Regression) | 496,544,134 | 142,594,562 | 390,525,056 | 47,211,819 | 62,708,287 | 9,484,289 | 33,321 | 2,704,042 | 1,151,805,512 |
| 2017 Test Year (Regression) | 506,567,748 | 147,340,116 | 414,179,848 | 48,962,602 | 58,295,178 | 9,651,831 | 32,530 | 2,688,107 | 1,187,717,961 |
| 2018 Test Year (Regression) | 516,794,779 | 152,246,433 | 439,285,756 | 50,778,310 | 54,599,087 | 9,822,345 | 31,757 | 2,672,266 | 1,226,230,734 |
| 2019 Test Year (Regression) | 527,228,267 | 157,314,939 | 465,839,347 | 52,661,351 | 51,084,127 | 9,995,852 | 31,003 | 2,656,518 | 1,266,811,404 |

Table 3-29 has been adjusted for CDM savings to produce forecast non-normalized weather billed energy.

TABLE 3-29 - FORECAST NON-WEATHER NORMALIZED BILLED ENERGY

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|-------------|-----------------|------------|-------------|-------------|----------------|-----------|---------------|
| Non-Normalized Billed Energy | | | | | | | | | |
| 2014 Bridge Year (Regression) | 474,276,878 | 132,766,468 | 345,095,428 | 43,637,356 | 71,341,518 | 9,157,883 | 34,756 | 2,720,085 | 1,079,030,372 |
| 2015 Test Year (Regression) | 481,083,933 | 136,413,064 | 363,971,254 | 44,988,087 | 66,054,588 | 6,898,975 | 33,730 | 2,688,072 | 1,102,131,704 |
| 2016 Test Year (Regression) | 487,660,453 | 140,082,635 | 383,723,007 | 46,339,336 | 61,618,760 | 4,602,545 | 32,705 | 2,654,071 | 1,126,713,512 |
| 2017 Test Year (Regression) | 493,266,787 | 143,560,253 | 403,732,654 | 47,612,969 | 56,822,203 | 4,729,452 | 31,633 | 2,614,011 | 1,152,369,961 |
| 2018 Test Year (Regression) | 498,692,796 | 147,076,343 | 424,700,551 | 48,880,609 | 52,788,973 | 4,858,993 | 30,570 | 2,572,397 | 1,179,601,234 |
| 2019 Test Year (Regression) | 504,106,282 | 150,677,877 | 446,728,440 | 50,156,999 | 48,996,407 | 4,991,186 | 29,529 | 2,530,185 | 1,208,216,904 |

The non-normalized weather billed energy forecast has been determined however the results needs to be adjusted for weather normalized billed energy to be forecast. The total non-normalized and weather normalized billed energy forecast is presented in the following chart:

| Forecast Year | Non-Normalized Billed Energy Consumption (kWh) | Normalized Billed Energy Consumption (kWh) |
|----------------|--|--|
| Bridge Year | 1,079,030,372 | 1,093,217,749 |
| 2015 Test Year | 1,102,131,704 | 1,107,580,970 |
| 2016 Test Year | 1,126,713,512 | 1,124,788,537 |
| 2017 Test Year | 1,152,369,961 | 1,135,912,494 |
| 2018 Test Year | 1,179,601,234 | 1,149,884,488 |
| 2019 Test Year | 1,208,216,904 | 1,163,639,671 |

The differences are assumed to be associated with moving the forecast from a non-normalized to a weather normal basis and this amount will be assigned to those rate classes that are weather sensitive.

Table 3-30 provides the forecast weather normalized results and the weather related adjustments applied:

TABLE 3-30 - FORECAST WEATHER NORMALIZED BILLED ENERGY

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|-------------|-----------------|------------|-------------|-------------|----------------|-----------|---------------|
| Normalized Billed Energy | | | | | | | | | |
| 2014 Bridge Year (Regression) | 481,054,885 | 134,663,866 | 349,725,891 | 43,637,356 | 72,223,027 | 9,157,883 | 34,756 | 2,720,085 | 1,093,217,749 |
| 2015 Test Year (Regression) | 483,663,532 | 137,144,452 | 365,803,341 | 44,988,087 | 66,360,781 | 6,898,975 | 33,730 | 2,688,072 | 1,107,580,970 |
| 2016 Test Year (Regression) | 486,758,735 | 139,823,685 | 383,057,156 | 46,339,336 | 61,520,302 | 4,602,545 | 32,705 | 2,654,071 | 1,124,788,537 |
| 2017 Test Year (Regression) | 485,640,571 | 141,342,094 | 397,878,346 | 47,612,969 | 56,063,419 | 4,729,452 | 31,633 | 2,614,011 | 1,135,912,494 |
| 2018 Test Year (Regression) | 485,086,336 | 143,067,915 | 413,841,565 | 48,880,609 | 51,546,101 | 4,858,993 | 30,570 | 2,572,397 | 1,149,884,488 |
| 2019 Test Year (Regression) | 483,951,299 | 144,664,011 | 430,008,488 | 50,156,999 | 47,307,974 | 4,991,186 | 29,529 | 2,530,185 | 1,163,639,671 |

| Description | Residential | GS<50 kW | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | USL | Total |
|-------------------------------|-------------|------------|-----------------|------------|-------------|-------------|----------------|-----|-------------|
| Adjustment | | | | | | | | | |
| 2014 Bridge Year (Regression) | 6,778,008 | 1,897,398 | 4,630,463 | 0 | 881,509 | 0 | 0 | 0 | 14,187,377 |
| 2015 Test Year (Regression) | 2,579,599 | 731,388 | 1,832,087 | 0 | 306,192 | 0 | 0 | 0 | 5,449,266 |
| 2016 Test Year (Regression) | -901,717 | -258,950 | -665,850 | 0 | -98,458 | 0 | 0 | 0 | -1,924,975 |
| 2017 Test Year (Regression) | -7,626,215 | -2,218,158 | -5,854,308 | 0 | -758,784 | 0 | 0 | 0 | -16,457,466 |
| 2018 Test Year (Regression) | -13,606,460 | -4,008,429 | -10,858,985 | 0 | -1,242,872 | 0 | 0 | 0 | -29,716,746 |
| 2019 Test Year (Regression) | -20,154,983 | -6,013,866 | -16,719,952 | 0 | -1,688,433 | 0 | 0 | 0 | -44,577,233 |

BILLED KW LOAD FORECAST

There are five rate classes that charge volumetric distribution on per kW basis. These include General Service 50 to 999 kW, General Service > 1000 kW, Large User, Street lighting and Sentinel Lighting. As a result, the energy forecast for these classes needs to be converted to a kW basis for rate setting purposes. The forecast of kW for these classes is based on a review of the historical ratio of kW to kWh and applying the average ratio to the forecasted kWh to produce the required kW.

Table 3-31 and Table 3-32 outline the annual billed demand (kW) and billed energy consumption (kWh) respectively, by rate class.

TABLE 3-31 - HISTORICAL ANNUAL BILLED DEMAND (KW)

| Description | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | Total |
|--------------------|--------------------|------------|----------------|-------------|-------------------|-----------|
| Billed Demand (kW) | | | | | | |
| 2003 | 806,199 | 349,045 | 197,712 | 23,227 | 127 | 1,376,310 |
| 2004 | 957,451 | 243,131 | 135,214 | 23,585 | 123 | 1,359,503 |
| 2005 | 913,899 | 154,705 | 142,187 | 24,114 | 120 | 1,235,026 |
| 2006 | 893,943 | 134,252 | 178,422 | 24,802 | 118 | 1,231,537 |
| 2007 | 887,017 | 135,954 | 214,029 | 25,740 | 115 | 1,262,855 |
| 2008 | 876,464 | 124,131 | 204,487 | 26,489 | 109 | 1,231,680 |
| 2009 | 861,503 | 89,007 | 190,299 | 27,041 | 102 | 1,167,952 |
| 2010 | 871,715 | 70,585 | 195,141 | 27,634 | 99 | 1,165,174 |
| 2011 | 867,070 | 83,704 | 192,700 | 27,830 | 100 | 1,171,404 |
| 2012 | 846,459 | 89,554 | 182,189 | 27,720 | 100 | 1,146,022 |
| 2013 | 844,838 | 93,930 | 186,993 | 25,374 | 100 | 1,151,235 |

TABLE 3-32 - HISTORICAL ANNUAL BILLED ENERGY CONSUMPTION (KWH)

| Description | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | Total |
|---------------------|--------------------|-------------|----------------|-------------|-------------------|-------------|
| Billed Energy (kWh) | | | | | | |
| 2003 | 281,244,126 | 169,257,213 | 96,172,091 | 8,359,781 | 45,541 | 555,078,751 |
| 2004 | 360,631,980 | 112,144,196 | 65,676,068 | 8,743,099 | 27,821 | 547,223,164 |
| 2005 | 361,962,669 | 62,904,833 | 67,016,961 | 9,182,978 | 43,197 | 501,110,638 |
| 2006 | 357,086,593 | 59,654,446 | 80,518,764 | 9,398,525 | 42,595 | 506,700,923 |
| 2007 | 359,144,720 | 61,811,846 | 103,869,997 | 9,704,521 | 41,408 | 534,572,492 |
| 2008 | 352,632,150 | 46,461,021 | 102,433,272 | 9,725,840 | 39,233 | 511,291,516 |
| 2009 | 349,784,301 | 36,580,289 | 87,237,589 | 10,202,758 | 36,792 | 483,841,729 |
| 2010 | 355,234,224 | 33,402,763 | 80,783,141 | 10,427,904 | 35,812 | 479,883,844 |
| 2011 | 359,534,375 | 37,740,699 | 79,908,016 | 10,253,017 | 35,812 | 487,471,919 |
| 2012 | 338,342,507 | 40,812,737 | 76,828,137 | 10,139,708 | 35,812 | 466,158,901 |
| 2013 | 337,123,668 | 42,326,219 | 79,176,233 | 9,082,284 | 35,812 | 467,744,216 |

The following Table 3-33 illustrates the historical ratios of kW/kWh as well as the geometric mean ratios for 2003 to 2013.

TABLE 3-33 - HISTORICAL RATES KW/KWH

| Description | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | Total |
|-----------------|-----------------|------------|-------------|-------------|----------------|-------|
| Ratio kW to kWh | | | | | | |
| 2003 | 0.29% | 0.21% | 0.21% | 0.28% | 0.28% | 0.25% |
| 2004 | 0.27% | 0.22% | 0.21% | 0.27% | 0.44% | 0.25% |
| 2005 | 0.25% | 0.25% | 0.21% | 0.26% | 0.28% | 0.25% |
| 2006 | 0.25% | 0.23% | 0.22% | 0.26% | 0.28% | 0.24% |
| 2007 | 0.25% | 0.22% | 0.21% | 0.27% | 0.28% | 0.24% |
| 2008 | 0.25% | 0.27% | 0.20% | 0.27% | 0.28% | 0.24% |
| 2009 | 0.25% | 0.24% | 0.22% | 0.27% | 0.28% | 0.24% |
| 2010 | 0.25% | 0.21% | 0.24% | 0.27% | 0.28% | 0.24% |
| 2011 | 0.24% | 0.22% | 0.24% | 0.27% | 0.28% | 0.24% |
| 2012 | 0.25% | 0.22% | 0.24% | 0.27% | 0.28% | 0.25% |
| 2013 | 0.25% | 0.22% | 0.24% | 0.28% | 0.28% | 0.25% |
| Rate Applied | 0.25% | 0.23% | 0.22% | 0.27% | 0.29% | 0.24% |
| Geometric Mean | 0.25% | 0.23% | 0.22% | 0.27% | 0.29% | 0.24% |

The “Rate Applied” from Table 3-33 was used to calculate the billed demand for each rate class by multiplying the rate by the relative weather normalized billed energy consumption forecast from Table 3-31 above. The following table outlines the forecast of billed demand for the Bridge Year and Test Years by rate class.

TABLE 3-34 - HISTORICAL RATES KW/KWH

| Description | GS 50 to 999 kW | Large User | GS>1,000 kW | Streetlight | Sentinel Light | Total |
|-------------------------------|-----------------|------------|-------------|-------------|----------------|-----------|
| Billed Energy (kW) | | | | | | |
| 2014 Bridge Year (Regression) | 885,168 | 99,132 | 159,223 | 24,692 | 102 | 1,168,317 |
| 2015 Test Year (Regression) | 925,860 | 102,200 | 146,299 | 18,602 | 99 | 1,193,061 |
| 2016 Test Year (Regression) | 969,530 | 105,270 | 135,628 | 12,410 | 96 | 1,222,934 |
| 2017 Test Year (Regression) | 1,007,043 | 108,164 | 123,598 | 12,752 | 93 | 1,251,649 |
| 2018 Test Year (Regression) | 1,047,447 | 111,043 | 113,639 | 13,101 | 90 | 1,285,320 |
| 2019 Test Year (Regression) | 1,088,366 | 113,943 | 104,295 | 13,458 | 87 | 1,320,148 |

The decrease in billed kW's for street lights reflects the City of Oshawa's plans to install LED lamps in 2015 as noted above.

The following Table 3-35 provides a summary of the billing determinants by rate class resulting from the Load Forecast process described in detail above and that OPUCN is proposing to be used in designing its rates:

TABLE 3-35 - BILLING DETERMINATES BY RATE CLASS

| Description | Board Approved | | Actual Results | | | | | | Bridge Year | | Test Years | | | |
|--------------------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | 2008 | 2012 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Actual kWh Purchases | 1,192,455,603 | 1,161,936,612 | 1,158,881,926 | 1,128,390,785 | 1,148,489,332 | 1,148,632,387 | 1,136,211,953 | 1,130,407,042 | 0 | 0 | 0 | 0 | 0 | 0 |
| Predicted kWh Purchases | | | 1,110,172,412 | 1,126,724,654 | 1,129,720,236 | 1,164,987,380 | 1,150,628,520 | 1,158,628,601 | 1,146,348,132 | 1,161,409,406 | 1,179,453,259 | 1,191,117,842 | 1,205,768,874 | 1,220,192,559 |
| % Difference | | | -4.2% | -0.1% | -1.6% | 1.4% | 1.3% | 2.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Billed kWh | 1,141,200,155 | 1,114,000,000 | 1,117,251,257 | 1,082,664,508 | 1,090,938,483 | 1,110,518,847 | 1,073,783,871 | 1,078,161,209 | 1,093,217,749 | 1,107,580,970 | 1,124,788,537 | 1,135,912,494 | 1,149,884,488 | 1,163,639,671 |
| By Class | | | | | | | | | | | | | | |
| Residential | | | | | | | | | | | | | | |
| Customers | 45,439 | 46,320 | 47,058 | 47,603 | 48,115 | 48,651 | 49,021 | 49,511 | 50,177 | 51,682 | 53,233 | 54,830 | 56,474 | 58,169 |
| kWh | 487,192,399 | 496,447,375 | 470,718,851 | 467,977,819 | 476,941,035 | 484,582,022 | 473,288,468 | 475,282,449 | 481,054,885 | 483,663,532 | 486,758,735 | 485,640,571 | 485,086,336 | 483,951,299 |
| GS<50 | | | | | | | | | | | | | | |
| Customers | 3,741 | 3,749 | 3,794 | 3,860 | 3,929 | 3,889 | 3,851 | 3,902 | 3,924 | 4,042 | 4,163 | 4,288 | 4,416 | 4,549 |
| kWh | 140,097,188 | 132,319,612 | 131,868,017 | 128,019,505 | 131,282,103 | 135,695,878 | 131,590,801 | 132,382,128 | 134,663,866 | 137,144,452 | 139,823,685 | 141,342,094 | 143,067,915 | 144,664,011 |
| GS>50 | | | | | | | | | | | | | | |
| Customers | 525 | 523 | 534 | 525 | 513 | 521 | 512 | 500 | 500 | 515 | 531 | 546 | 563 | 580 |
| kWh | 358,858,375 | 359,363,080 | 352,632,150 | 349,784,301 | 355,234,224 | 359,534,375 | 338,342,507 | 337,123,668 | 349,725,891 | 365,803,341 | 383,057,156 | 397,878,346 | 413,841,565 | 430,008,488 |
| kW | 88,063,845 | 88,187,700 | 876,464 | 861,503 | 871,715 | 867,070 | 846,459 | 844,838 | 885,168 | 925,860 | 969,530 | 1,007,043 | 1,047,447 | 1,088,366 |
| Large User | | | | | | | | | | | | | | |
| Customers | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| kWh | 60,139,982 | 33,402,763 | 46,461,021 | 36,580,289 | 33,402,763 | 37,740,699 | 40,812,737 | 42,326,219 | 43,637,356 | 44,988,087 | 46,339,336 | 47,612,969 | 48,880,609 | 50,156,999 |
| kW | 14,758,352 | 7,058,004 | 124,131 | 89,007 | 70,585 | 83,704 | 89,554 | 93,930 | 99,132 | 102,200 | 105,270 | 108,164 | 111,043 | 113,943 |
| I2 | | | | | | | | | | | | | | |
| Customers | 9 | 9 | 9 | 10 | 10 | 10 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 13 |
| kWh | 80,956,601 | 78,175,306 | 102,433,272 | 87,237,589 | 80,783,141 | 79,908,016 | 76,828,137 | 79,176,233 | 72,223,027 | 66,360,781 | 61,520,302 | 56,063,419 | 51,546,101 | 47,307,974 |
| kW | 19,866,750 | 18,887,154 | 204,487 | 190,299 | 195,141 | 192,700 | 182,189 | 186,993 | 159,223 | 146,299 | 135,628 | 123,598 | 113,639 | 104,295 |
| Streetlights | | | | | | | | | | | | | | |
| Connections | 10,831 | 11,281 | 11,622 | 11,801 | 11,996 | 12,128 | 12,213 | 12,328 | 12,581 | 12,958 | 13,347 | 13,747 | 14,160 | 14,585 |
| kWh | 10,072,853 | 11,044,796 | 9,725,840 | 10,202,758 | 10,427,904 | 10,253,017 | 10,139,708 | 9,082,284 | 9,157,883 | 6,898,975 | 4,602,545 | 4,729,452 | 4,858,993 | 4,991,186 |
| kW | 2,471,878 | 2,926,871 | 26,489 | 27,041 | 27,634 | 27,830 | 27,720 | 25,374 | 24,692 | 18,602 | 12,410 | 12,752 | 13,101 | 13,458 |
| Sentinels | | | | | | | | | | | | | | |
| Connections | 29 | 27 | 26 | 26 | 25 | 24 | 24 | 24 | 23 | 22 | 22 | 21 | 20 | 19 |
| kWh | 40,813 | 38,567 | 39,233 | 36,792 | 35,812 | 35,812 | 35,812 | 35,812 | 34,756 | 33,730 | 32,705 | 31,633 | 30,570 | 29,529 |
| kW | 10,016 | 10,714 | 109 | 102 | 99 | 100 | 100 | 100 | 102 | 99 | 96 | 93 | 90 | 87 |
| USL | | | | | | | | | | | | | | |
| Connections | 298 | 301 | 301 | 303 | 307 | 303 | 296 | 295 | 295 | 296 | 296 | 296 | 297 | 297 |
| kWh | 3,841,944 | 3,208,501 | 3,372,873 | 2,825,455 | 2,831,501 | 2,769,028 | 2,745,701 | 2,752,416 | 2,720,085 | 2,688,072 | 2,654,071 | 2,614,011 | 2,572,397 | 2,530,185 |
| Total of Above | | | | | | | | | | | | | | |
| Customer/Connections | 60,873 | 62,211 | 63,345 | 64,128 | 64,894 | 65,525 | 65,927 | 66,572 | 67,512 | 69,527 | 71,603 | 73,741 | 75,943 | 78,212 |
| kWh | 1,141,200,155 | 1,114,000,000 | 1,117,251,257 | 1,082,664,508 | 1,090,938,483 | 1,110,518,847 | 1,073,783,871 | 1,078,161,209 | 1,093,217,749 | 1,107,580,970 | 1,124,788,537 | 1,135,912,494 | 1,149,884,488 | 1,163,639,671 |
| kW from applicable classes | 125,170,840 | 117,070,442 | 1,231,680 | 1,167,952 | 1,165,174 | 1,171,404 | 1,146,022 | 1,151,235 | 1,168,317 | 1,193,061 | 1,222,934 | 1,251,649 | 1,285,320 | 1,320,148 |

APPENDIX 3-1: WEATHER NORMALIZED LOAD REGRESSION

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-------------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-03 | 126,011,890 | 786.00 | - | 4.70% | 31 | 0 | 122,651,411 |
| Feb-03 | 112,581,000 | 686.50 | - | 4.70% | 28 | 0 | 110,152,574 |
| Mar-03 | 110,536,430 | 572.50 | - | 4.70% | 31 | 1 | 106,849,865 |
| Apr-03 | 97,712,940 | 403.90 | - | 5.60% | 30 | 1 | 96,085,295 |
| May-03 | 90,261,150 | 192.00 | - | 5.60% | 31 | 1 | 90,411,363 |
| Jun-03 | 92,476,040 | 55.10 | 31.00 | 5.60% | 30 | 0 | 93,662,317 |
| Jul-03 | 100,371,630 | 5.70 | 59.10 | 5.20% | 31 | 0 | 98,975,275 |
| Aug-03 | 101,507,680 | 10.40 | 106.50 | 5.20% | 31 | 0 | 105,820,821 |
| Sep-03 | 91,341,000 | 55.20 | 12.10 | 5.20% | 30 | 1 | 84,298,839 |
| Oct-03 | 95,672,250 | 289.70 | - | 4.70% | 31 | 1 | 95,494,540 |
| Nov-03 | 101,404,920 | 387.60 | - | 4.70% | 30 | 1 | 96,591,007 |
| Dec-03 | 112,847,240 | 548.20 | - | 4.70% | 31 | 0 | 113,102,980 |
| Jan-04 | 127,196,340 | 828.80 | - | 5.00% | 31 | 0 | 123,983,232 |
| Feb-04 | 108,928,270 | 615.60 | - | 5.00% | 29 | 0 | 109,753,507 |
| Mar-04 | 105,064,150 | 487.10 | - | 5.00% | 31 | 1 | 103,034,045 |
| Apr-04 | 91,322,380 | 345.00 | - | 5.40% | 30 | 1 | 93,978,095 |
| May-04 | 86,885,250 | 177.50 | - | 5.40% | 31 | 1 | 90,086,966 |
| Jun-04 | 86,876,500 | 73.20 | 15.60 | 5.40% | 30 | 0 | 92,484,148 |
| Jul-04 | 92,903,530 | 2.00 | 69.30 | 5.50% | 31 | 0 | 99,872,453 |
| Aug-04 | 94,121,760 | 19.60 | 53.60 | 5.50% | 31 | 0 | 98,374,251 |
| Sep-04 | 88,536,700 | 41.70 | 26.70 | 5.50% | 30 | 1 | 85,420,449 |
| Oct-04 | 88,377,710 | 235.00 | - | 5.80% | 31 | 1 | 91,880,126 |
| Nov-04 | 94,905,100 | 385.70 | - | 5.80% | 30 | 1 | 95,096,682 |
| Dec-04 | 113,323,500 | 627.50 | - | 5.80% | 31 | 0 | 114,869,095 |
| Jan-05 | 118,166,820 | 745.50 | - | 7.20% | 31 | 0 | 117,802,401 |
| Feb-05 | 100,566,840 | 589.50 | - | 7.20% | 28 | 0 | 103,034,908 |
| Mar-05 | 104,158,730 | 578.30 | - | 7.20% | 31 | 1 | 103,859,948 |
| Apr-05 | 84,434,840 | 325.30 | - | 6.40% | 30 | 1 | 91,897,955 |
| May-05 | 81,831,370 | 216.10 | 0.30 | 6.40% | 31 | 1 | 90,389,889 |
| Jun-05 | 98,362,500 | 13.70 | 89.90 | 6.40% | 30 | 0 | 99,240,555 |
| Jul-05 | 103,745,750 | 2.20 | 153.00 | 5.80% | 31 | 0 | 111,248,522 |
| Aug-05 | 101,425,330 | - | 108.00 | 5.80% | 31 | 0 | 104,840,413 |
| Sep-05 | 87,813,850 | 36.70 | 32.80 | 5.80% | 30 | 1 | 85,689,626 |
| Oct-05 | 87,350,690 | 223.80 | 0.50 | 6.70% | 31 | 1 | 90,340,420 |
| Nov-05 | 94,515,140 | 398.50 | - | 6.70% | 30 | 1 | 94,450,433 |
| Dec-05 | 112,129,490 | 641.10 | - | 6.70% | 31 | 0 | 114,254,968 |
| Jan-06 | 108,586,490 | 558.20 | - | 6.60% | 31 | 0 | 111,055,180 |
| Feb-06 | 101,769,990 | 608.80 | - | 6.60% | 28 | 0 | 104,583,339 |
| Mar-06 | 102,729,300 | 534.00 | - | 6.60% | 31 | 1 | 102,854,635 |
| Apr-06 | 85,245,280 | 323.60 | - | 6.50% | 30 | 1 | 91,700,783 |
| May-06 | 85,191,000 | 172.60 | 12.80 | 6.50% | 31 | 1 | 90,269,804 |
| Jun-06 | 91,808,310 | 22.60 | 36.20 | 6.50% | 30 | 0 | 91,927,412 |
| Jul-06 | 103,610,940 | 1.70 | 107.60 | 6.70% | 31 | 0 | 103,692,288 |
| Aug-06 | 98,252,830 | 4.40 | 82.10 | 6.70% | 31 | 0 | 100,219,498 |
| Sep-06 | 83,090,470 | 70.70 | 5.10 | 6.70% | 30 | 1 | 82,004,455 |
| Oct-06 | 90,859,410 | 274.60 | - | 6.80% | 31 | 1 | 92,181,070 |
| Nov-06 | 95,117,460 | 367.50 | - | 6.80% | 30 | 1 | 93,076,771 |
| Dec-06 | 105,098,960 | 471.50 | - | 6.80% | 31 | 0 | 107,316,073 |
| Jan-07 | 112,093,790 | 573.10 | - | 6.10% | 31 | 0 | 112,298,024 |
| Feb-07 | 109,302,770 | 693.50 | - | 6.10% | 28 | 0 | 108,628,876 |
| Mar-07 | 106,781,890 | 477.90 | - | 6.10% | 31 | 1 | 101,246,601 |
| Apr-07 | 92,267,850 | 280.40 | - | 6.00% | 30 | 1 | 90,610,725 |
| May-07 | 86,029,130 | 72.80 | 4.50 | 6.00% | 31 | 1 | 85,741,429 |
| Jun-07 | 96,829,930 | 6.20 | 32.80 | 6.00% | 30 | 0 | 91,435,967 |
| Jul-07 | 96,919,610 | 8.70 | 41.60 | 6.50% | 31 | 0 | 94,962,187 |
| Aug-07 | 103,644,560 | 4.00 | 87.80 | 6.50% | 31 | 0 | 101,261,765 |
| Sep-07 | 87,760,000 | 20.10 | 12.30 | 6.50% | 30 | 1 | 81,241,691 |
| Oct-07 | 88,883,380 | 101.50 | - | 6.30% | 31 | 1 | 85,875,112 |
| Nov-07 | 97,788,230 | 314.10 | - | 6.30% | 30 | 1 | 91,577,152 |
| Dec-07 | 112,852,450 | 337.80 | - | 6.30% | 31 | 0 | 102,592,151 |

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-------------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-08 | 111,423,480 | 432.80 | - | 6.40% | 31 | 0 | 106,277,793 |
| Feb-08 | 106,527,560 | 317.60 | - | 6.40% | 29 | 0 | 95,983,082 |
| Mar-08 | 105,633,900 | 430.00 | - | 6.40% | 31 | 1 | 98,936,526 |
| Apr-08 | 86,147,430 | 144.60 | - | 7.40% | 30 | 1 | 83,353,150 |
| May-08 | 82,776,310 | 151.00 | - | 7.40% | 31 | 1 | 86,444,661 |
| Jun-08 | 90,692,793 | 15.50 | 23.60 | 7.40% | 30 | 0 | 88,712,579 |
| Jul-08 | 98,868,440 | 1.00 | 61.40 | 6.80% | 31 | 0 | 97,046,970 |
| Aug-08 | 93,432,320 | 13.80 | 29.90 | 6.80% | 31 | 0 | 93,137,091 |
| Sep-08 | 86,855,072 | 51.60 | 15.10 | 6.80% | 30 | 1 | 82,513,010 |
| Oct-08 | 88,294,618 | 203.10 | - | 7.90% | 31 | 1 | 87,892,082 |
| Nov-08 | 95,870,835 | 268.80 | - | 7.90% | 30 | 1 | 87,695,616 |
| Dec-08 | 112,359,168 | 378.90 | - | 7.90% | 31 | 0 | 102,179,852 |
| Jan-09 | 119,321,706 | 684.30 | - | 8.50% | 31 | 0 | 113,669,166 |
| Feb-09 | 99,385,016 | 595.30 | - | 8.50% | 28 | 0 | 101,591,938 |
| Mar-09 | 100,852,310 | 442.20 | - | 8.50% | 31 | 1 | 96,719,239 |
| Apr-09 | 86,741,668 | 313.80 | - | 8.70% | 30 | 1 | 88,471,212 |
| May-09 | 80,591,893 | 170.10 | - | 8.70% | 31 | 1 | 85,535,729 |
| Jun-09 | 84,198,051 | 57.90 | 26.30 | 8.70% | 30 | 0 | 89,118,402 |
| Jul-09 | 87,831,701 | 16.80 | 25.60 | 9.20% | 31 | 0 | 89,559,768 |
| Aug-09 | 97,879,755 | 13.10 | 77.70 | 9.20% | 31 | 0 | 96,728,092 |
| Sep-09 | 83,907,662 | 64.80 | 9.00 | 9.20% | 30 | 1 | 79,092,459 |
| Oct-09 | 88,097,164 | 287.90 | - | 9.90% | 31 | 1 | 88,718,829 |
| Nov-09 | 89,873,867 | 347.40 | - | 9.90% | 30 | 1 | 88,273,413 |
| Dec-09 | 109,709,991 | 619.10 | - | 9.90% | 31 | 0 | 109,246,407 |
| Jan-10 | 114,148,404 | 699.90 | - | 10.30% | 31 | 0 | 111,975,136 |
| Feb-10 | 100,280,892 | 583.80 | - | 10.30% | 28 | 0 | 98,809,756 |
| Mar-10 | 95,443,611 | 411.00 | - | 10.30% | 31 | 1 | 93,146,039 |
| Apr-10 | 80,941,806 | 244.00 | - | 9.90% | 30 | 1 | 84,121,572 |
| May-10 | 87,418,768 | 121.70 | 23.20 | 9.90% | 31 | 1 | 85,303,561 |
| Jun-10 | 89,087,289 | 19.40 | 46.60 | 9.90% | 30 | 0 | 88,876,476 |
| Jul-10 | 107,904,059 | 3.50 | 124.00 | 10.40% | 31 | 0 | 101,298,017 |
| Aug-10 | 102,274,426 | 3.20 | 96.80 | 10.40% | 31 | 0 | 97,466,021 |
| Sep-10 | 83,491,003 | 85.50 | 18.50 | 10.40% | 30 | 1 | 79,710,857 |
| Oct-10 | 84,900,189 | 247.80 | - | 9.30% | 31 | 1 | 87,882,159 |
| Nov-10 | 91,736,752 | 389.20 | - | 9.30% | 30 | 1 | 90,725,290 |
| Dec-10 | 110,862,133 | 628.70 | - | 9.30% | 31 | 0 | 110,405,351 |
| Jan-11 | 113,644,387 | 760.90 | - | 8.70% | 31 | 0 | 116,487,077 |
| Feb-11 | 100,561,048 | 634.20 | - | 8.70% | 28 | 0 | 102,896,073 |
| Mar-11 | 102,613,397 | 559.80 | - | 8.70% | 31 | 1 | 101,183,431 |
| Apr-11 | 87,015,565 | 350.80 | - | 9.30% | 30 | 1 | 89,183,407 |
| May-11 | 82,921,010 | 157.70 | 2.80 | 9.30% | 31 | 1 | 84,657,586 |
| Jun-11 | 88,149,132 | 26.70 | 36.90 | 9.30% | 30 | 0 | 88,580,806 |
| Jul-11 | 108,927,665 | 0.20 | 141.20 | 7.10% | 31 | 0 | 107,835,172 |
| Aug-11 | 100,307,974 | 3.70 | 80.50 | 7.10% | 31 | 0 | 99,451,039 |
| Sep-11 | 85,805,170 | 48.90 | 34.60 | 7.10% | 30 | 1 | 84,756,427 |
| Oct-11 | 85,767,950 | 225.30 | - | 7.40% | 31 | 1 | 89,428,044 |
| Nov-11 | 89,407,468 | 349.70 | - | 7.40% | 30 | 1 | 91,588,571 |
| Dec-11 | 103,511,621 | 531.20 | - | 7.40% | 31 | 0 | 108,939,746 |
| Jan-12 | 107,982,172 | 611.00 | - | 8.00% | 31 | 0 | 111,370,498 |
| Feb-12 | 97,310,519 | 536.20 | - | 8.00% | 29 | 0 | 102,697,976 |
| Mar-12 | 92,940,594 | 399.40 | - | 8.00% | 31 | 1 | 95,645,243 |
| Apr-12 | 84,061,512 | 336.90 | - | 8.40% | 30 | 1 | 89,785,488 |
| May-12 | 84,298,341 | 109.30 | 21.80 | 8.40% | 31 | 1 | 86,542,729 |
| Jun-12 | 93,187,122 | 28.20 | 64.30 | 8.40% | 30 | 0 | 93,649,284 |
| Jul-12 | 110,767,075 | - | 155.30 | 9.10% | 31 | 0 | 107,229,092 |
| Aug-12 | 101,373,952 | 4.40 | 102.80 | 9.10% | 31 | 0 | 100,032,699 |
| Sep-12 | 85,023,139 | 84.00 | 24.40 | 9.10% | 30 | 1 | 82,155,079 |
| Oct-12 | 85,295,690 | 229.00 | - | 9.60% | 31 | 1 | 86,740,542 |
| Nov-12 | 91,679,200 | 427.90 | - | 9.60% | 30 | 1 | 91,892,483 |
| Dec-12 | 102,292,638 | 451.10 | - | 9.60% | 31 | 0 | 102,887,406 |

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-------------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-13 | 107,376,383 | 615.40 | - | 8.60% | 31 | 0 | 110,773,685 |
| Feb-13 | 98,702,892 | 611.50 | - | 8.60% | 28 | 0 | 102,113,494 |
| Mar-13 | 98,851,083 | 545.00 | - | 8.60% | 31 | 1 | 100,718,061 |
| Apr-13 | 87,330,008 | 366.50 | - | 7.83% | 30 | 1 | 91,709,445 |
| May-13 | 81,913,958 | 133.40 | 3.00 | 7.83% | 31 | 1 | 85,605,583 |
| Jun-13 | 86,391,933 | 42.90 | 32.20 | 7.83% | 30 | 0 | 90,466,855 |
| Jul-13 | 104,037,067 | 4.40 | 110.00 | 6.74% | 31 | 0 | 104,081,794 |
| Aug-13 | 95,663,442 | 11.00 | 57.90 | 6.74% | 31 | 0 | 97,029,914 |
| Sep-13 | 83,012,108 | 96.60 | 15.70 | 6.74% | 30 | 1 | 84,477,118 |
| Oct-13 | 84,463,400 | 221.00 | 3.00 | 7.55% | 31 | 1 | 89,483,335 |
| Nov-13 | 94,249,183 | 458.60 | - | 7.55% | 30 | 1 | 95,767,886 |
| Dec-13 | 108,415,583 | 472.80 | - | 7.55% | 31 | 0 | 106,401,431 |
| Jan-14 | | 552.13 | - | 7.55% | 31 | 0 | 109,586,939 |
| Feb-14 | | 548.63 | - | 7.55% | 28 | 0 | 100,942,847 |
| Mar-14 | | 488.97 | - | 7.55% | 31 | 1 | 99,821,923 |
| Apr-14 | | 328.82 | - | 7.55% | 30 | 1 | 90,556,884 |
| May-14 | | 119.69 | 3.69 | 7.55% | 31 | 1 | 85,511,502 |
| Jun-14 | | 38.49 | 39.56 | 7.55% | 30 | 0 | 91,683,234 |
| Jul-14 | | 3.95 | 135.13 | 7.55% | 31 | 0 | 106,553,186 |
| Aug-14 | | 9.87 | 71.13 | 7.55% | 31 | 0 | 97,802,435 |
| Sep-14 | | 86.67 | 19.29 | 7.55% | 30 | 1 | 83,542,300 |
| Oct-14 | | 198.28 | 3.69 | 7.55% | 31 | 1 | 88,667,314 |
| Nov-14 | | 411.45 | - | 7.55% | 30 | 1 | 93,874,810 |
| Dec-14 | | 424.19 | - | 7.55% | 31 | 0 | 104,449,738 |
| Jan-15 | | 545.66 | - | 7.55% | 31 | 0 | 109,327,039 |
| Feb-15 | | 542.20 | - | 7.55% | 28 | 0 | 100,684,594 |
| Mar-15 | | 483.24 | - | 7.55% | 31 | 1 | 99,591,755 |
| Apr-15 | | 324.97 | - | 7.55% | 30 | 1 | 90,402,101 |
| May-15 | | 118.28 | 3.77 | 7.55% | 31 | 1 | 85,467,317 |
| Jun-15 | | 38.04 | 40.49 | 7.55% | 30 | 0 | 91,795,564 |
| Jul-15 | | 3.90 | 138.30 | 7.55% | 31 | 0 | 106,996,960 |
| Aug-15 | | 9.75 | 72.80 | 7.55% | 31 | 0 | 98,032,354 |
| Sep-15 | | 85.65 | 19.74 | 7.55% | 30 | 1 | 83,565,107 |
| Oct-15 | | 195.96 | 3.77 | 7.55% | 31 | 1 | 88,586,133 |
| Nov-15 | | 406.63 | - | 7.55% | 30 | 1 | 93,681,131 |
| Dec-15 | | 419.22 | - | 7.55% | 31 | 0 | 104,250,062 |
| Jan-16 | | 539.19 | - | 7.55% | 31 | 0 | 109,067,139 |
| Feb-16 | | 535.77 | - | 7.55% | 29 | 0 | 103,260,873 |
| Mar-16 | | 477.51 | - | 7.55% | 31 | 1 | 99,361,587 |
| Apr-16 | | 321.11 | - | 7.55% | 30 | 1 | 90,247,319 |
| May-16 | | 116.88 | 3.86 | 7.55% | 31 | 1 | 85,423,132 |
| Jun-16 | | 37.59 | 41.41 | 7.55% | 30 | 0 | 91,907,895 |
| Jul-16 | | 3.86 | 141.48 | 7.55% | 31 | 0 | 107,440,734 |
| Aug-16 | | 9.64 | 74.47 | 7.55% | 31 | 0 | 98,262,273 |
| Sep-16 | | 84.64 | 20.19 | 7.55% | 30 | 1 | 83,587,915 |
| Oct-16 | | 193.63 | 3.86 | 7.55% | 31 | 1 | 88,504,953 |
| Nov-16 | | 401.81 | - | 7.55% | 30 | 1 | 93,487,452 |
| Dec-16 | | 414.25 | - | 7.55% | 31 | 0 | 104,050,386 |
| Jan-17 | | 532.72 | - | 7.55% | 31 | 0 | 108,807,239 |
| Feb-17 | | 529.34 | - | 7.55% | 28 | 0 | 100,168,089 |
| Mar-17 | | 471.77 | - | 7.55% | 31 | 1 | 99,131,419 |
| Apr-17 | | 317.26 | - | 7.55% | 30 | 1 | 90,092,536 |
| May-17 | | 115.48 | 3.95 | 7.55% | 31 | 1 | 85,378,947 |
| Jun-17 | | 37.14 | 42.34 | 7.55% | 30 | 0 | 92,020,226 |
| Jul-17 | | 3.81 | 144.65 | 7.55% | 31 | 0 | 107,884,508 |
| Aug-17 | | 9.52 | 76.14 | 7.55% | 31 | 0 | 98,492,192 |
| Sep-17 | | 83.62 | 20.65 | 7.55% | 30 | 1 | 83,610,722 |
| Oct-17 | | 191.31 | 3.95 | 7.55% | 31 | 1 | 88,423,772 |
| Nov-17 | | 396.98 | - | 7.55% | 30 | 1 | 93,293,773 |
| Dec-17 | | 409.28 | - | 7.55% | 31 | 0 | 103,850,710 |

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-----------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-18 | | 526.24 | - | 7.55% | 31 | 0 | 108,547,340 |
| Feb-18 | | 522.91 | - | 7.55% | 28 | 0 | 99,909,836 |
| Mar-18 | | 466.04 | - | 7.55% | 31 | 1 | 98,901,251 |
| Apr-18 | | 313.40 | - | 7.55% | 30 | 1 | 89,937,753 |
| May-18 | | 114.07 | 4.03 | 7.55% | 31 | 1 | 85,334,763 |
| Jun-18 | | 36.68 | 43.27 | 7.55% | 30 | 0 | 92,132,557 |
| Jul-18 | | 3.76 | 147.82 | 7.55% | 31 | 0 | 108,328,282 |
| Aug-18 | | 9.41 | 77.81 | 7.55% | 31 | 0 | 98,722,111 |
| Sep-18 | | 82.60 | 21.10 | 7.55% | 30 | 1 | 83,633,529 |
| Oct-18 | | 188.98 | 4.03 | 7.55% | 31 | 1 | 88,342,592 |
| Nov-18 | | 392.16 | - | 7.55% | 30 | 1 | 93,100,094 |
| Dec-18 | | 404.30 | - | 7.55% | 31 | 0 | 103,651,034 |
| Jan-19 | | 519.77 | - | 7.55% | 31 | 0 | 108,287,440 |
| Feb-19 | | 516.48 | - | 7.55% | 28 | 0 | 99,651,583 |
| Mar-19 | | 460.31 | - | 7.55% | 31 | 1 | 98,671,083 |
| Apr-19 | | 309.55 | - | 7.55% | 30 | 1 | 89,782,971 |
| May-19 | | 112.67 | 4.12 | 7.55% | 31 | 1 | 85,290,578 |
| Jun-19 | | 36.23 | 44.20 | 7.55% | 30 | 0 | 92,244,888 |
| Jul-19 | | 3.72 | 151.00 | 7.55% | 31 | 0 | 108,772,056 |
| Aug-19 | | 9.29 | 79.48 | 7.55% | 31 | 0 | 98,952,030 |
| Sep-19 | | 81.59 | 21.55 | 7.55% | 30 | 1 | 83,656,336 |
| Oct-19 | | 186.66 | 4.12 | 7.55% | 31 | 1 | 88,261,411 |
| Nov-19 | | 387.34 | - | 7.55% | 30 | 1 | 92,906,415 |
| Dec-19 | | 399.33 | - | 7.55% | 31 | 0 | 103,451,358 |

APPENDIX 3-2: 10 YEAR TREND WEATHER NORMALIZED LOAD REGRESSION

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-------------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-03 | 126,011,890 | 786.00 | - | 4.70% | 31 | 0 | 122,651,411 |
| Feb-03 | 112,581,000 | 686.50 | - | 4.70% | 28 | 0 | 110,152,574 |
| Mar-03 | 110,536,430 | 572.50 | - | 4.70% | 31 | 1 | 106,849,865 |
| Apr-03 | 97,712,940 | 403.90 | - | 5.60% | 30 | 1 | 96,085,295 |
| May-03 | 90,261,150 | 192.00 | - | 5.60% | 31 | 1 | 90,411,363 |
| Jun-03 | 92,476,040 | 55.10 | 31.00 | 5.60% | 30 | 0 | 93,662,317 |
| Jul-03 | 100,371,630 | 5.70 | 59.10 | 5.20% | 31 | 0 | 98,975,275 |
| Aug-03 | 101,507,680 | 10.40 | 106.50 | 5.20% | 31 | 0 | 105,820,821 |
| Sep-03 | 91,341,000 | 55.20 | 12.10 | 5.20% | 30 | 1 | 84,298,839 |
| Oct-03 | 95,672,250 | 289.70 | - | 4.70% | 31 | 1 | 95,494,540 |
| Nov-03 | 101,404,920 | 387.60 | - | 4.70% | 30 | 1 | 96,591,007 |
| Dec-03 | 112,847,240 | 548.20 | - | 4.70% | 31 | 0 | 113,102,980 |
| Jan-04 | 127,196,340 | 828.80 | - | 5.00% | 31 | 0 | 123,983,232 |
| Feb-04 | 108,928,270 | 615.60 | - | 5.00% | 29 | 0 | 109,753,507 |
| Mar-04 | 105,064,150 | 487.10 | - | 5.00% | 31 | 1 | 103,034,045 |
| Apr-04 | 91,322,380 | 345.00 | - | 5.40% | 30 | 1 | 93,978,095 |
| May-04 | 86,885,250 | 177.50 | - | 5.40% | 31 | 1 | 90,086,966 |
| Jun-04 | 86,876,500 | 73.20 | 15.60 | 5.40% | 30 | 0 | 92,484,148 |
| Jul-04 | 92,903,530 | 2.00 | 69.30 | 5.50% | 31 | 0 | 99,872,453 |
| Aug-04 | 94,121,760 | 19.60 | 53.60 | 5.50% | 31 | 0 | 98,374,251 |
| Sep-04 | 88,536,700 | 41.70 | 26.70 | 5.50% | 30 | 1 | 85,420,449 |
| Oct-04 | 88,377,710 | 235.00 | - | 5.80% | 31 | 1 | 91,880,126 |
| Nov-04 | 94,905,100 | 385.70 | - | 5.80% | 30 | 1 | 95,096,682 |
| Dec-04 | 113,323,500 | 627.50 | - | 5.80% | 31 | 0 | 114,869,095 |
| Jan-05 | 118,166,820 | 745.50 | - | 7.20% | 31 | 0 | 117,802,401 |
| Feb-05 | 100,566,840 | 589.50 | - | 7.20% | 28 | 0 | 103,034,908 |
| Mar-05 | 104,158,730 | 578.30 | - | 7.20% | 31 | 1 | 103,859,948 |
| Apr-05 | 84,434,840 | 325.30 | - | 6.40% | 30 | 1 | 91,897,955 |
| May-05 | 81,831,370 | 216.10 | 0.30 | 6.40% | 31 | 1 | 90,389,889 |
| Jun-05 | 98,362,500 | 13.70 | 89.90 | 6.40% | 30 | 0 | 99,240,555 |
| Jul-05 | 103,745,750 | 2.20 | 153.00 | 5.80% | 31 | 0 | 111,248,522 |
| Aug-05 | 101,425,330 | - | 108.00 | 5.80% | 31 | 0 | 104,840,413 |
| Sep-05 | 87,813,850 | 36.70 | 32.80 | 5.80% | 30 | 1 | 85,689,626 |
| Oct-05 | 87,350,690 | 223.80 | 0.50 | 6.70% | 31 | 1 | 90,340,420 |
| Nov-05 | 94,515,140 | 398.50 | - | 6.70% | 30 | 1 | 94,450,433 |
| Dec-05 | 112,129,490 | 641.10 | - | 6.70% | 31 | 0 | 114,254,968 |
| Jan-06 | 108,586,490 | 558.20 | - | 6.60% | 31 | 0 | 111,055,180 |
| Feb-06 | 101,769,990 | 608.80 | - | 6.60% | 28 | 0 | 104,583,339 |
| Mar-06 | 102,729,300 | 534.00 | - | 6.60% | 31 | 1 | 102,854,635 |
| Apr-06 | 85,245,280 | 323.60 | - | 6.50% | 30 | 1 | 91,700,783 |
| May-06 | 85,191,000 | 172.60 | 12.80 | 6.50% | 31 | 1 | 90,269,804 |
| Jun-06 | 91,808,310 | 22.60 | 36.20 | 6.50% | 30 | 0 | 91,927,412 |
| Jul-06 | 103,610,940 | 1.70 | 107.60 | 6.70% | 31 | 0 | 103,692,288 |
| Aug-06 | 98,252,830 | 4.40 | 82.10 | 6.70% | 31 | 0 | 100,219,498 |
| Sep-06 | 83,090,470 | 70.70 | 5.10 | 6.70% | 30 | 1 | 82,004,455 |
| Oct-06 | 90,859,410 | 274.60 | - | 6.80% | 31 | 1 | 92,181,070 |
| Nov-06 | 95,117,460 | 367.50 | - | 6.80% | 30 | 1 | 93,076,771 |
| Dec-06 | 105,098,960 | 471.50 | - | 6.80% | 31 | 0 | 107,316,073 |
| Jan-07 | 112,093,790 | 573.10 | - | 6.10% | 31 | 0 | 112,298,024 |
| Feb-07 | 109,302,770 | 693.50 | - | 6.10% | 28 | 0 | 108,628,876 |
| Mar-07 | 106,781,890 | 477.90 | - | 6.10% | 31 | 1 | 101,246,601 |
| Apr-07 | 92,267,850 | 280.40 | - | 6.00% | 30 | 1 | 90,610,725 |
| May-07 | 86,029,130 | 72.80 | 4.50 | 6.00% | 31 | 1 | 85,741,429 |
| Jun-07 | 96,829,930 | 6.20 | 32.80 | 6.00% | 30 | 0 | 91,435,967 |
| Jul-07 | 96,919,610 | 8.70 | 41.60 | 6.50% | 31 | 0 | 94,962,187 |
| Aug-07 | 103,644,560 | 4.00 | 87.80 | 6.50% | 31 | 0 | 101,261,765 |
| Sep-07 | 87,760,000 | 20.10 | 12.30 | 6.50% | 30 | 1 | 81,241,691 |
| Oct-07 | 88,883,380 | 101.50 | - | 6.30% | 31 | 1 | 85,875,112 |
| Nov-07 | 97,788,230 | 314.10 | - | 6.30% | 30 | 1 | 91,577,152 |
| Dec-07 | 112,852,450 | 337.80 | - | 6.30% | 31 | 0 | 102,592,151 |

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-------------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-08 | 111,423,480 | 432.80 | - | 6.40% | 31 | 0 | 106,277,793 |
| Feb-08 | 106,527,560 | 317.60 | - | 6.40% | 29 | 0 | 95,983,082 |
| Mar-08 | 105,633,900 | 430.00 | - | 6.40% | 31 | 1 | 98,936,526 |
| Apr-08 | 86,147,430 | 144.60 | - | 7.40% | 30 | 1 | 83,353,150 |
| May-08 | 82,776,310 | 151.00 | - | 7.40% | 31 | 1 | 86,444,661 |
| Jun-08 | 90,692,793 | 15.50 | 23.60 | 7.40% | 30 | 0 | 88,712,579 |
| Jul-08 | 98,868,440 | 1.00 | 61.40 | 6.80% | 31 | 0 | 97,046,970 |
| Aug-08 | 93,432,320 | 13.80 | 29.90 | 6.80% | 31 | 0 | 93,137,091 |
| Sep-08 | 86,855,072 | 51.60 | 15.10 | 6.80% | 30 | 1 | 82,513,010 |
| Oct-08 | 88,294,618 | 203.10 | - | 7.90% | 31 | 1 | 87,892,082 |
| Nov-08 | 95,870,835 | 268.80 | - | 7.90% | 30 | 1 | 87,695,616 |
| Dec-08 | 112,359,168 | 378.90 | - | 7.90% | 31 | 0 | 102,179,852 |
| Jan-09 | 119,321,706 | 684.30 | - | 8.50% | 31 | 0 | 113,669,166 |
| Feb-09 | 99,385,016 | 595.30 | - | 8.50% | 28 | 0 | 101,591,938 |
| Mar-09 | 100,852,310 | 442.20 | - | 8.50% | 31 | 1 | 96,719,239 |
| Apr-09 | 86,741,668 | 313.80 | - | 8.70% | 30 | 1 | 88,471,212 |
| May-09 | 80,591,893 | 170.10 | - | 8.70% | 31 | 1 | 85,535,729 |
| Jun-09 | 84,198,051 | 57.90 | 26.30 | 8.70% | 30 | 0 | 89,118,402 |
| Jul-09 | 87,831,701 | 16.80 | 25.60 | 9.20% | 31 | 0 | 89,559,768 |
| Aug-09 | 97,879,755 | 13.10 | 77.70 | 9.20% | 31 | 0 | 96,728,092 |
| Sep-09 | 83,907,662 | 64.80 | 9.00 | 9.20% | 30 | 1 | 79,092,459 |
| Oct-09 | 88,097,164 | 287.90 | - | 9.90% | 31 | 1 | 88,718,829 |
| Nov-09 | 89,873,867 | 347.40 | - | 9.90% | 30 | 1 | 88,273,413 |
| Dec-09 | 109,709,991 | 619.10 | - | 9.90% | 31 | 0 | 109,246,407 |
| Jan-10 | 114,148,404 | 699.90 | - | 10.30% | 31 | 0 | 111,975,136 |
| Feb-10 | 100,280,892 | 583.80 | - | 10.30% | 28 | 0 | 98,809,756 |
| Mar-10 | 95,443,611 | 411.00 | - | 10.30% | 31 | 1 | 93,146,039 |
| Apr-10 | 80,941,806 | 244.00 | - | 9.90% | 30 | 1 | 84,121,572 |
| May-10 | 87,418,768 | 121.70 | 23.20 | 9.90% | 31 | 1 | 85,303,561 |
| Jun-10 | 89,087,289 | 19.40 | 46.60 | 9.90% | 30 | 0 | 88,876,476 |
| Jul-10 | 107,904,059 | 3.50 | 124.00 | 10.40% | 31 | 0 | 101,298,017 |
| Aug-10 | 102,274,426 | 3.20 | 96.80 | 10.40% | 31 | 0 | 97,466,021 |
| Sep-10 | 83,491,003 | 85.50 | 18.50 | 10.40% | 30 | 1 | 79,710,857 |
| Oct-10 | 84,900,189 | 247.80 | - | 9.30% | 31 | 1 | 87,882,159 |
| Nov-10 | 91,736,752 | 389.20 | - | 9.30% | 30 | 1 | 90,725,290 |
| Dec-10 | 110,862,133 | 628.70 | - | 9.30% | 31 | 0 | 110,405,351 |
| Jan-11 | 113,644,387 | 760.90 | - | 8.70% | 31 | 0 | 116,487,077 |
| Feb-11 | 100,561,048 | 634.20 | - | 8.70% | 28 | 0 | 102,896,073 |
| Mar-11 | 102,613,397 | 559.80 | - | 8.70% | 31 | 1 | 101,183,431 |
| Apr-11 | 87,015,565 | 350.80 | - | 9.30% | 30 | 1 | 89,183,407 |
| May-11 | 82,921,010 | 157.70 | 2.80 | 9.30% | 31 | 1 | 84,657,586 |
| Jun-11 | 88,149,132 | 26.70 | 36.90 | 9.30% | 30 | 0 | 88,580,806 |
| Jul-11 | 108,927,665 | 0.20 | 141.20 | 7.10% | 31 | 0 | 107,835,172 |
| Aug-11 | 100,307,974 | 3.70 | 80.50 | 7.10% | 31 | 0 | 99,451,039 |
| Sep-11 | 85,805,170 | 48.90 | 34.60 | 7.10% | 30 | 1 | 84,756,427 |
| Oct-11 | 85,767,950 | 225.30 | - | 7.40% | 31 | 1 | 89,428,044 |
| Nov-11 | 89,407,468 | 349.70 | - | 7.40% | 30 | 1 | 91,588,571 |
| Dec-11 | 103,511,621 | 531.20 | - | 7.40% | 31 | 0 | 108,939,746 |
| Jan-12 | 107,982,172 | 611.00 | - | 8.00% | 31 | 0 | 111,370,498 |
| Feb-12 | 97,310,519 | 536.20 | - | 8.00% | 29 | 0 | 102,697,976 |
| Mar-12 | 92,940,594 | 399.40 | - | 8.00% | 31 | 1 | 95,645,243 |
| Apr-12 | 84,061,512 | 336.90 | - | 8.40% | 30 | 1 | 89,785,488 |
| May-12 | 84,298,341 | 109.30 | 21.80 | 8.40% | 31 | 1 | 86,542,729 |
| Jun-12 | 93,187,122 | 28.20 | 64.30 | 8.40% | 30 | 0 | 93,649,284 |
| Jul-12 | 110,767,075 | - | 155.30 | 9.10% | 31 | 0 | 107,229,092 |
| Aug-12 | 101,373,952 | 4.40 | 102.80 | 9.10% | 31 | 0 | 100,032,699 |
| Sep-12 | 85,023,139 | 84.00 | 24.40 | 9.10% | 30 | 1 | 82,155,079 |
| Oct-12 | 85,295,690 | 229.00 | - | 9.60% | 31 | 1 | 86,740,542 |
| Nov-12 | 91,679,200 | 427.90 | - | 9.60% | 30 | 1 | 91,892,483 |
| Dec-12 | 102,292,638 | 451.10 | - | 9.60% | 31 | 0 | 102,887,406 |

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-------------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-13 | 107,376,383 | 615.40 | - | 8.60% | 31 | 0 | 110,773,685 |
| Feb-13 | 98,702,892 | 611.50 | - | 8.60% | 28 | 0 | 102,113,494 |
| Mar-13 | 98,851,083 | 545.00 | - | 8.60% | 31 | 1 | 100,718,061 |
| Apr-13 | 87,330,008 | 366.50 | - | 7.83% | 30 | 1 | 91,709,445 |
| May-13 | 81,913,958 | 133.40 | 3.00 | 7.83% | 31 | 1 | 85,605,583 |
| Jun-13 | 86,391,933 | 42.90 | 32.20 | 7.83% | 30 | 0 | 90,466,855 |
| Jul-13 | 104,037,067 | 4.40 | 110.00 | 6.74% | 31 | 0 | 104,081,794 |
| Aug-13 | 95,663,442 | 11.00 | 57.90 | 6.74% | 31 | 0 | 97,029,914 |
| Sep-13 | 83,012,108 | 96.60 | 15.70 | 6.74% | 30 | 1 | 84,477,118 |
| Oct-13 | 84,463,400 | 221.00 | 3.00 | 7.55% | 31 | 1 | 89,483,335 |
| Nov-13 | 94,249,183 | 458.60 | - | 7.55% | 30 | 1 | 95,767,886 |
| Dec-13 | 108,415,583 | 472.80 | - | 7.55% | 31 | 0 | 106,401,431 |
| Jan-14 | | 564.54 | - | 7.55% | 31 | 0 | 110,085,161 |
| Feb-14 | | 560.96 | - | 7.55% | 28 | 0 | 101,437,911 |
| Mar-14 | | 499.96 | - | 7.55% | 31 | 1 | 100,263,150 |
| Apr-14 | | 336.21 | - | 7.55% | 30 | 1 | 90,853,599 |
| May-14 | | 122.38 | 3.77 | 7.55% | 31 | 1 | 85,631,761 |
| Jun-14 | | 39.35 | 40.49 | 7.55% | 30 | 0 | 91,849,550 |
| Jul-14 | | 4.04 | 138.33 | 7.55% | 31 | 0 | 107,006,264 |
| Aug-14 | | 10.09 | 72.81 | 7.55% | 31 | 0 | 98,047,949 |
| Sep-14 | | 88.62 | 19.74 | 7.55% | 30 | 1 | 83,684,665 |
| Oct-14 | | 202.74 | 3.77 | 7.55% | 31 | 1 | 88,858,493 |
| Nov-14 | | 420.70 | - | 7.55% | 30 | 1 | 94,246,088 |
| Dec-14 | | 433.73 | - | 7.55% | 31 | 0 | 104,832,512 |
| Jan-15 | | 564.54 | - | 7.55% | 31 | 0 | 110,085,161 |
| Feb-15 | | 560.96 | - | 7.55% | 28 | 0 | 101,437,911 |
| Mar-15 | | 499.96 | - | 7.55% | 31 | 1 | 100,263,150 |
| Apr-15 | | 336.21 | - | 7.55% | 30 | 1 | 90,853,599 |
| May-15 | | 122.38 | 3.77 | 7.55% | 31 | 1 | 85,631,761 |
| Jun-15 | | 39.35 | 40.49 | 7.55% | 30 | 0 | 91,849,550 |
| Jul-15 | | 4.04 | 138.33 | 7.55% | 31 | 0 | 107,006,264 |
| Aug-15 | | 10.09 | 72.81 | 7.55% | 31 | 0 | 98,047,949 |
| Sep-15 | | 88.62 | 19.74 | 7.55% | 30 | 1 | 83,684,665 |
| Oct-15 | | 202.74 | 3.77 | 7.55% | 31 | 1 | 88,858,493 |
| Nov-15 | | 420.70 | - | 7.55% | 30 | 1 | 94,246,088 |
| Dec-15 | | 433.73 | - | 7.55% | 31 | 0 | 104,832,512 |
| Jan-16 | | 564.54 | - | 7.55% | 31 | 0 | 110,085,161 |
| Feb-16 | | 560.96 | - | 7.55% | 29 | 0 | 104,272,443 |
| Mar-16 | | 499.96 | - | 7.55% | 31 | 1 | 100,263,150 |
| Apr-16 | | 336.21 | - | 7.55% | 30 | 1 | 90,853,599 |
| May-16 | | 122.38 | 3.77 | 7.55% | 31 | 1 | 85,631,761 |
| Jun-16 | | 39.35 | 40.49 | 7.55% | 30 | 0 | 91,849,550 |
| Jul-16 | | 4.04 | 138.33 | 7.55% | 31 | 0 | 107,006,264 |
| Aug-16 | | 10.09 | 72.81 | 7.55% | 31 | 0 | 98,047,949 |
| Sep-16 | | 88.62 | 19.74 | 7.55% | 30 | 1 | 83,684,665 |
| Oct-16 | | 202.74 | 3.77 | 7.55% | 31 | 1 | 88,858,493 |
| Nov-16 | | 420.70 | - | 7.55% | 30 | 1 | 94,246,088 |
| Dec-16 | | 433.73 | - | 7.55% | 31 | 0 | 104,832,512 |
| Jan-17 | | 564.54 | - | 7.55% | 31 | 0 | 110,085,161 |
| Feb-17 | | 560.96 | - | 7.55% | 28 | 0 | 101,437,911 |
| Mar-17 | | 499.96 | - | 7.55% | 31 | 1 | 100,263,150 |
| Apr-17 | | 336.21 | - | 7.55% | 30 | 1 | 90,853,599 |
| May-17 | | 122.38 | 3.77 | 7.55% | 31 | 1 | 85,631,761 |
| Jun-17 | | 39.35 | 40.49 | 7.55% | 30 | 0 | 91,849,550 |
| Jul-17 | | 4.04 | 138.33 | 7.55% | 31 | 0 | 107,006,264 |
| Aug-17 | | 10.09 | 72.81 | 7.55% | 31 | 0 | 98,047,949 |
| Sep-17 | | 88.62 | 19.74 | 7.55% | 30 | 1 | 83,684,665 |
| Oct-17 | | 202.74 | 3.77 | 7.55% | 31 | 1 | 88,858,493 |
| Nov-17 | | 420.70 | - | 7.55% | 30 | 1 | 94,246,088 |
| Dec-17 | | 433.73 | - | 7.55% | 31 | 0 | 104,832,512 |

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-----------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-18 | | 564.54 | - | 7.55% | 31 | 0 | 110,085,161 |
| Feb-18 | | 560.96 | - | 7.55% | 28 | 0 | 101,437,911 |
| Mar-18 | | 499.96 | - | 7.55% | 31 | 1 | 100,263,150 |
| Apr-18 | | 336.21 | - | 7.55% | 30 | 1 | 90,853,599 |
| May-18 | | 122.38 | 3.77 | 7.55% | 31 | 1 | 85,631,761 |
| Jun-18 | | 39.35 | 40.49 | 7.55% | 30 | 0 | 91,849,550 |
| Jul-18 | | 4.04 | 138.33 | 7.55% | 31 | 0 | 107,006,264 |
| Aug-18 | | 10.09 | 72.81 | 7.55% | 31 | 0 | 98,047,949 |
| Sep-18 | | 88.62 | 19.74 | 7.55% | 30 | 1 | 83,684,665 |
| Oct-18 | | 202.74 | 3.77 | 7.55% | 31 | 1 | 88,858,493 |
| Nov-18 | | 420.70 | - | 7.55% | 30 | 1 | 94,246,088 |
| Dec-18 | | 433.73 | - | 7.55% | 31 | 0 | 104,832,512 |
| Jan-19 | | 564.54 | - | 7.55% | 31 | 0 | 110,085,161 |
| Feb-19 | | 560.96 | - | 7.55% | 28 | 0 | 101,437,911 |
| Mar-19 | | 499.96 | - | 7.55% | 31 | 1 | 100,263,150 |
| Apr-19 | | 336.21 | - | 7.55% | 30 | 1 | 90,853,599 |
| May-19 | | 122.38 | 3.77 | 7.55% | 31 | 1 | 85,631,761 |
| Jun-19 | | 39.35 | 40.49 | 7.55% | 30 | 0 | 91,849,550 |
| Jul-19 | | 4.04 | 138.33 | 7.55% | 31 | 0 | 107,006,264 |
| Aug-19 | | 10.09 | 72.81 | 7.55% | 31 | 0 | 98,047,949 |
| Sep-19 | | 88.62 | 19.74 | 7.55% | 30 | 1 | 83,684,665 |
| Oct-19 | | 202.74 | 3.77 | 7.55% | 31 | 1 | 88,858,493 |
| Nov-19 | | 420.70 | - | 7.55% | 30 | 1 | 94,246,088 |
| Dec-19 | | 433.73 | - | 7.55% | 31 | 0 | 104,832,512 |

APPENDIX 3-3: 20 YEAR TREND WEATHER NORMALIZED LOAD REGRESSION

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-------------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-03 | 126,011,890 | 786.00 | - | 4.70% | 31 | 0 | 122,651,411 |
| Feb-03 | 112,581,000 | 686.50 | - | 4.70% | 28 | 0 | 110,152,574 |
| Mar-03 | 110,536,430 | 572.50 | - | 4.70% | 31 | 1 | 106,849,865 |
| Apr-03 | 97,712,940 | 403.90 | - | 5.60% | 30 | 1 | 96,085,295 |
| May-03 | 90,261,150 | 192.00 | - | 5.60% | 31 | 1 | 90,411,363 |
| Jun-03 | 92,476,040 | 55.10 | 31.00 | 5.60% | 30 | 0 | 93,662,317 |
| Jul-03 | 100,371,630 | 5.70 | 59.10 | 5.20% | 31 | 0 | 98,975,275 |
| Aug-03 | 101,507,680 | 10.40 | 106.50 | 5.20% | 31 | 0 | 105,820,821 |
| Sep-03 | 91,341,000 | 55.20 | 12.10 | 5.20% | 30 | 1 | 84,298,839 |
| Oct-03 | 95,672,250 | 289.70 | - | 4.70% | 31 | 1 | 95,494,540 |
| Nov-03 | 101,404,920 | 387.60 | - | 4.70% | 30 | 1 | 96,591,007 |
| Dec-03 | 112,847,240 | 548.20 | - | 4.70% | 31 | 0 | 113,102,980 |
| Jan-04 | 127,196,340 | 828.80 | - | 5.00% | 31 | 0 | 123,983,232 |
| Feb-04 | 108,928,270 | 615.60 | - | 5.00% | 29 | 0 | 109,753,507 |
| Mar-04 | 105,064,150 | 487.10 | - | 5.00% | 31 | 1 | 103,034,045 |
| Apr-04 | 91,322,380 | 345.00 | - | 5.40% | 30 | 1 | 93,978,095 |
| May-04 | 86,885,250 | 177.50 | - | 5.40% | 31 | 1 | 90,086,966 |
| Jun-04 | 86,876,500 | 73.20 | 15.60 | 5.40% | 30 | 0 | 92,484,148 |
| Jul-04 | 92,903,530 | 2.00 | 69.30 | 5.50% | 31 | 0 | 99,872,453 |
| Aug-04 | 94,121,760 | 19.60 | 53.60 | 5.50% | 31 | 0 | 98,374,251 |
| Sep-04 | 88,536,700 | 41.70 | 26.70 | 5.50% | 30 | 1 | 85,420,449 |
| Oct-04 | 88,377,710 | 235.00 | - | 5.80% | 31 | 1 | 91,880,126 |
| Nov-04 | 94,905,100 | 385.70 | - | 5.80% | 30 | 1 | 95,096,682 |
| Dec-04 | 113,323,500 | 627.50 | - | 5.80% | 31 | 0 | 114,869,095 |
| Jan-05 | 118,166,820 | 745.50 | - | 7.20% | 31 | 0 | 117,802,401 |
| Feb-05 | 100,566,840 | 589.50 | - | 7.20% | 28 | 0 | 103,034,908 |
| Mar-05 | 104,158,730 | 578.30 | - | 7.20% | 31 | 1 | 103,859,948 |
| Apr-05 | 84,434,840 | 325.30 | - | 6.40% | 30 | 1 | 91,897,955 |
| May-05 | 81,831,370 | 216.10 | 0.30 | 6.40% | 31 | 1 | 90,389,889 |
| Jun-05 | 98,362,500 | 13.70 | 89.90 | 6.40% | 30 | 0 | 99,240,555 |
| Jul-05 | 103,745,750 | 2.20 | 153.00 | 5.80% | 31 | 0 | 111,248,522 |
| Aug-05 | 101,425,330 | - | 108.00 | 5.80% | 31 | 0 | 104,840,413 |
| Sep-05 | 87,813,850 | 36.70 | 32.80 | 5.80% | 30 | 1 | 85,689,626 |
| Oct-05 | 87,350,690 | 223.80 | 0.50 | 6.70% | 31 | 1 | 90,340,420 |
| Nov-05 | 94,515,140 | 398.50 | - | 6.70% | 30 | 1 | 94,450,433 |
| Dec-05 | 112,129,490 | 641.10 | - | 6.70% | 31 | 0 | 114,254,968 |
| Jan-06 | 108,586,490 | 558.20 | - | 6.60% | 31 | 0 | 111,055,180 |
| Feb-06 | 101,769,990 | 608.80 | - | 6.60% | 28 | 0 | 104,583,339 |
| Mar-06 | 102,729,300 | 534.00 | - | 6.60% | 31 | 1 | 102,854,635 |
| Apr-06 | 85,245,280 | 323.60 | - | 6.50% | 30 | 1 | 91,700,783 |
| May-06 | 85,191,000 | 172.60 | 12.80 | 6.50% | 31 | 1 | 90,269,804 |
| Jun-06 | 91,808,310 | 22.60 | 36.20 | 6.50% | 30 | 0 | 91,927,412 |
| Jul-06 | 103,610,940 | 1.70 | 107.60 | 6.70% | 31 | 0 | 103,692,288 |
| Aug-06 | 98,252,830 | 4.40 | 82.10 | 6.70% | 31 | 0 | 100,219,498 |
| Sep-06 | 83,090,470 | 70.70 | 5.10 | 6.70% | 30 | 1 | 82,004,455 |
| Oct-06 | 90,859,410 | 274.60 | - | 6.80% | 31 | 1 | 92,181,070 |
| Nov-06 | 95,117,460 | 367.50 | - | 6.80% | 30 | 1 | 93,076,771 |
| Dec-06 | 105,098,960 | 471.50 | - | 6.80% | 31 | 0 | 107,316,073 |
| Jan-07 | 112,093,790 | 573.10 | - | 6.10% | 31 | 0 | 112,298,024 |
| Feb-07 | 109,302,770 | 693.50 | - | 6.10% | 28 | 0 | 108,628,876 |
| Mar-07 | 106,781,890 | 477.90 | - | 6.10% | 31 | 1 | 101,246,601 |
| Apr-07 | 92,267,850 | 280.40 | - | 6.00% | 30 | 1 | 90,610,725 |
| May-07 | 86,029,130 | 72.80 | 4.50 | 6.00% | 31 | 1 | 85,741,429 |
| Jun-07 | 96,829,930 | 6.20 | 32.80 | 6.00% | 30 | 0 | 91,435,967 |
| Jul-07 | 96,919,610 | 8.70 | 41.60 | 6.50% | 31 | 0 | 94,962,187 |
| Aug-07 | 103,644,560 | 4.00 | 87.80 | 6.50% | 31 | 0 | 101,261,765 |
| Sep-07 | 87,760,000 | 20.10 | 12.30 | 6.50% | 30 | 1 | 81,241,691 |
| Oct-07 | 88,883,380 | 101.50 | - | 6.30% | 31 | 1 | 85,875,112 |
| Nov-07 | 97,788,230 | 314.10 | - | 6.30% | 30 | 1 | 91,577,152 |
| Dec-07 | 112,852,450 | 337.80 | - | 6.30% | 31 | 0 | 102,592,151 |

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-------------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-08 | 111,423,480 | 432.80 | - | 6.40% | 31 | 0 | 106,277,793 |
| Feb-08 | 106,527,560 | 317.60 | - | 6.40% | 29 | 0 | 95,983,082 |
| Mar-08 | 105,633,900 | 430.00 | - | 6.40% | 31 | 1 | 98,936,526 |
| Apr-08 | 86,147,430 | 144.60 | - | 7.40% | 30 | 1 | 83,353,150 |
| May-08 | 82,776,310 | 151.00 | - | 7.40% | 31 | 1 | 86,444,661 |
| Jun-08 | 90,692,793 | 15.50 | 23.60 | 7.40% | 30 | 0 | 88,712,579 |
| Jul-08 | 98,868,440 | 1.00 | 61.40 | 6.80% | 31 | 0 | 97,046,970 |
| Aug-08 | 93,432,320 | 13.80 | 29.90 | 6.80% | 31 | 0 | 93,137,091 |
| Sep-08 | 86,855,072 | 51.60 | 15.10 | 6.80% | 30 | 1 | 82,513,010 |
| Oct-08 | 88,294,618 | 203.10 | - | 7.90% | 31 | 1 | 87,892,082 |
| Nov-08 | 95,870,835 | 268.80 | - | 7.90% | 30 | 1 | 87,695,616 |
| Dec-08 | 112,359,168 | 378.90 | - | 7.90% | 31 | 0 | 102,179,852 |
| Jan-09 | 119,321,706 | 684.30 | - | 8.50% | 31 | 0 | 113,669,166 |
| Feb-09 | 99,385,016 | 595.30 | - | 8.50% | 28 | 0 | 101,591,938 |
| Mar-09 | 100,852,310 | 442.20 | - | 8.50% | 31 | 1 | 96,719,239 |
| Apr-09 | 86,741,668 | 313.80 | - | 8.70% | 30 | 1 | 88,471,212 |
| May-09 | 80,591,893 | 170.10 | - | 8.70% | 31 | 1 | 85,535,729 |
| Jun-09 | 84,198,051 | 57.90 | 26.30 | 8.70% | 30 | 0 | 89,118,402 |
| Jul-09 | 87,831,701 | 16.80 | 25.60 | 9.20% | 31 | 0 | 89,559,768 |
| Aug-09 | 97,879,755 | 13.10 | 77.70 | 9.20% | 31 | 0 | 96,728,092 |
| Sep-09 | 83,907,662 | 64.80 | 9.00 | 9.20% | 30 | 1 | 79,092,459 |
| Oct-09 | 88,097,164 | 287.90 | - | 9.90% | 31 | 1 | 88,718,829 |
| Nov-09 | 89,873,867 | 347.40 | - | 9.90% | 30 | 1 | 88,273,413 |
| Dec-09 | 109,709,991 | 619.10 | - | 9.90% | 31 | 0 | 109,246,407 |
| Jan-10 | 114,148,404 | 699.90 | - | 10.30% | 31 | 0 | 111,975,136 |
| Feb-10 | 100,280,892 | 583.80 | - | 10.30% | 28 | 0 | 98,809,756 |
| Mar-10 | 95,443,611 | 411.00 | - | 10.30% | 31 | 1 | 93,146,039 |
| Apr-10 | 80,941,806 | 244.00 | - | 9.90% | 30 | 1 | 84,121,572 |
| May-10 | 87,418,768 | 121.70 | 23.20 | 9.90% | 31 | 1 | 85,303,561 |
| Jun-10 | 89,087,289 | 19.40 | 46.60 | 9.90% | 30 | 0 | 88,876,476 |
| Jul-10 | 107,904,059 | 3.50 | 124.00 | 10.40% | 31 | 0 | 101,298,017 |
| Aug-10 | 102,274,426 | 3.20 | 96.80 | 10.40% | 31 | 0 | 97,466,021 |
| Sep-10 | 83,491,003 | 85.50 | 18.50 | 10.40% | 30 | 1 | 79,710,857 |
| Oct-10 | 84,900,189 | 247.80 | - | 9.30% | 31 | 1 | 87,882,159 |
| Nov-10 | 91,736,752 | 389.20 | - | 9.30% | 30 | 1 | 90,725,290 |
| Dec-10 | 110,862,133 | 628.70 | - | 9.30% | 31 | 0 | 110,405,351 |
| Jan-11 | 113,644,387 | 760.90 | - | 8.70% | 31 | 0 | 116,487,077 |
| Feb-11 | 100,561,048 | 634.20 | - | 8.70% | 28 | 0 | 102,896,073 |
| Mar-11 | 102,613,397 | 559.80 | - | 8.70% | 31 | 1 | 101,183,431 |
| Apr-11 | 87,015,565 | 350.80 | - | 9.30% | 30 | 1 | 89,183,407 |
| May-11 | 82,921,010 | 157.70 | 2.80 | 9.30% | 31 | 1 | 84,657,586 |
| Jun-11 | 88,149,132 | 26.70 | 36.90 | 9.30% | 30 | 0 | 88,580,806 |
| Jul-11 | 108,927,665 | 0.20 | 141.20 | 7.10% | 31 | 0 | 107,835,172 |
| Aug-11 | 100,307,974 | 3.70 | 80.50 | 7.10% | 31 | 0 | 99,451,039 |
| Sep-11 | 85,805,170 | 48.90 | 34.60 | 7.10% | 30 | 1 | 84,756,427 |
| Oct-11 | 85,767,950 | 225.30 | - | 7.40% | 31 | 1 | 89,428,044 |
| Nov-11 | 89,407,468 | 349.70 | - | 7.40% | 30 | 1 | 91,588,571 |
| Dec-11 | 103,511,621 | 531.20 | - | 7.40% | 31 | 0 | 108,939,746 |
| Jan-12 | 107,982,172 | 611.00 | - | 8.00% | 31 | 0 | 111,370,498 |
| Feb-12 | 97,310,519 | 536.20 | - | 8.00% | 29 | 0 | 102,697,976 |
| Mar-12 | 92,940,594 | 399.40 | - | 8.00% | 31 | 1 | 95,645,243 |
| Apr-12 | 84,061,512 | 336.90 | - | 8.40% | 30 | 1 | 89,785,488 |
| May-12 | 84,298,341 | 109.30 | 21.80 | 8.40% | 31 | 1 | 86,542,729 |
| Jun-12 | 93,187,122 | 28.20 | 64.30 | 8.40% | 30 | 0 | 93,649,284 |
| Jul-12 | 110,767,075 | - | 155.30 | 9.10% | 31 | 0 | 107,229,092 |
| Aug-12 | 101,373,952 | 4.40 | 102.80 | 9.10% | 31 | 0 | 100,032,699 |
| Sep-12 | 85,023,139 | 84.00 | 24.40 | 9.10% | 30 | 1 | 82,155,079 |
| Oct-12 | 85,295,690 | 229.00 | - | 9.60% | 31 | 1 | 86,740,542 |
| Nov-12 | 91,679,200 | 427.90 | - | 9.60% | 30 | 1 | 91,892,483 |
| Dec-12 | 102,292,638 | 451.10 | - | 9.60% | 31 | 0 | 102,887,406 |

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-------------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-13 | 107,376,383 | 615.40 | - | 8.60% | 31 | 0 | 110,773,685 |
| Feb-13 | 98,702,892 | 611.50 | - | 8.60% | 28 | 0 | 102,113,494 |
| Mar-13 | 98,851,083 | 545.00 | - | 8.60% | 31 | 1 | 100,718,061 |
| Apr-13 | 87,330,008 | 366.50 | - | 7.83% | 30 | 1 | 91,709,445 |
| May-13 | 81,913,958 | 133.40 | 3.00 | 7.83% | 31 | 1 | 85,605,583 |
| Jun-13 | 86,391,933 | 42.90 | 32.20 | 7.83% | 30 | 0 | 90,466,855 |
| Jul-13 | 104,037,067 | 4.40 | 110.00 | 6.74% | 31 | 0 | 104,081,794 |
| Aug-13 | 95,663,442 | 11.00 | 57.90 | 6.74% | 31 | 0 | 97,029,914 |
| Sep-13 | 83,012,108 | 96.60 | 15.70 | 6.74% | 30 | 1 | 84,477,118 |
| Oct-13 | 84,463,400 | 221.00 | 3.00 | 7.55% | 31 | 1 | 89,483,335 |
| Nov-13 | 94,249,183 | 458.60 | - | 7.55% | 30 | 1 | 95,767,886 |
| Dec-13 | 108,415,583 | 472.80 | - | 7.55% | 31 | 0 | 106,401,431 |
| Jan-14 | | 550.09 | - | 7.55% | 31 | 0 | 109,505,060 |
| Feb-14 | | 546.61 | - | 7.55% | 28 | 0 | 100,861,487 |
| Mar-14 | | 487.17 | - | 7.55% | 31 | 1 | 99,749,411 |
| Apr-14 | | 327.61 | - | 7.55% | 30 | 1 | 90,508,121 |
| May-14 | | 119.24 | 3.61 | 7.55% | 31 | 1 | 85,482,959 |
| Jun-14 | | 38.35 | 38.73 | 7.55% | 30 | 0 | 91,561,675 |
| Jul-14 | | 3.93 | 132.31 | 7.55% | 31 | 0 | 106,156,836 |
| Aug-14 | | 9.83 | 69.64 | 7.55% | 31 | 0 | 97,592,655 |
| Sep-14 | | 86.35 | 18.88 | 7.55% | 30 | 1 | 83,472,961 |
| Oct-14 | | 197.55 | 3.61 | 7.55% | 31 | 1 | 88,627,116 |
| Nov-14 | | 409.93 | - | 7.55% | 30 | 1 | 93,813,793 |
| Dec-14 | | 422.63 | - | 7.55% | 31 | 0 | 104,386,832 |
| Jan-15 | | 550.09 | - | 7.55% | 31 | 0 | 109,505,060 |
| Feb-15 | | 546.61 | - | 7.55% | 28 | 0 | 100,861,487 |
| Mar-15 | | 487.17 | - | 7.55% | 31 | 1 | 99,749,411 |
| Apr-15 | | 327.61 | - | 7.55% | 30 | 1 | 90,508,121 |
| May-15 | | 119.24 | 3.61 | 7.55% | 31 | 1 | 85,482,959 |
| Jun-15 | | 38.35 | 38.73 | 7.55% | 30 | 0 | 91,561,675 |
| Jul-15 | | 3.93 | 132.31 | 7.55% | 31 | 0 | 106,156,836 |
| Aug-15 | | 9.83 | 69.64 | 7.55% | 31 | 0 | 97,592,655 |
| Sep-15 | | 86.35 | 18.88 | 7.55% | 30 | 1 | 83,472,961 |
| Oct-15 | | 197.55 | 3.61 | 7.55% | 31 | 1 | 88,627,116 |
| Nov-15 | | 409.93 | - | 7.55% | 30 | 1 | 93,813,793 |
| Dec-15 | | 422.63 | - | 7.55% | 31 | 0 | 104,386,832 |
| Jan-16 | | 550.09 | - | 7.55% | 31 | 0 | 109,505,060 |
| Feb-16 | | 546.61 | - | 7.55% | 29 | 0 | 103,696,018 |
| Mar-16 | | 487.17 | - | 7.55% | 31 | 1 | 99,749,411 |
| Apr-16 | | 327.61 | - | 7.55% | 30 | 1 | 90,508,121 |
| May-16 | | 119.24 | 3.61 | 7.55% | 31 | 1 | 85,482,959 |
| Jun-16 | | 38.35 | 38.73 | 7.55% | 30 | 0 | 91,561,675 |
| Jul-16 | | 3.93 | 132.31 | 7.55% | 31 | 0 | 106,156,836 |
| Aug-16 | | 9.83 | 69.64 | 7.55% | 31 | 0 | 97,592,655 |
| Sep-16 | | 86.35 | 18.88 | 7.55% | 30 | 1 | 83,472,961 |
| Oct-16 | | 197.55 | 3.61 | 7.55% | 31 | 1 | 88,627,116 |
| Nov-16 | | 409.93 | - | 7.55% | 30 | 1 | 93,813,793 |
| Dec-16 | | 422.63 | - | 7.55% | 31 | 0 | 104,386,832 |
| Jan-17 | | 550.09 | - | 7.55% | 31 | 0 | 109,505,060 |
| Feb-17 | | 546.61 | - | 7.55% | 28 | 0 | 100,861,487 |
| Mar-17 | | 487.17 | - | 7.55% | 31 | 1 | 99,749,411 |
| Apr-17 | | 327.61 | - | 7.55% | 30 | 1 | 90,508,121 |
| May-17 | | 119.24 | 3.61 | 7.55% | 31 | 1 | 85,482,959 |
| Jun-17 | | 38.35 | 38.73 | 7.55% | 30 | 0 | 91,561,675 |
| Jul-17 | | 3.93 | 132.31 | 7.55% | 31 | 0 | 106,156,836 |
| Aug-17 | | 9.83 | 69.64 | 7.55% | 31 | 0 | 97,592,655 |
| Sep-17 | | 86.35 | 18.88 | 7.55% | 30 | 1 | 83,472,961 |
| Oct-17 | | 197.55 | 3.61 | 7.55% | 31 | 1 | 88,627,116 |
| Nov-17 | | 409.93 | - | 7.55% | 30 | 1 | 93,813,793 |
| Dec-17 | | 422.63 | - | 7.55% | 31 | 0 | 104,386,832 |

| Month | Purchased | Heating Degree Days | Cooling Degree Days | Oshawa Qtrly Unemployment Rate | Number of Days in Month | Spring Fall Flag | Predicted Purchases |
|--------|-----------|---------------------|---------------------|--------------------------------|-------------------------|------------------|---------------------|
| Jan-18 | | 550.09 | - | 7.55% | 31 | 0 | 109,505,060 |
| Feb-18 | | 546.61 | - | 7.55% | 28 | 0 | 100,861,487 |
| Mar-18 | | 487.17 | - | 7.55% | 31 | 1 | 99,749,411 |
| Apr-18 | | 327.61 | - | 7.55% | 30 | 1 | 90,508,121 |
| May-18 | | 119.24 | 3.61 | 7.55% | 31 | 1 | 85,482,959 |
| Jun-18 | | 38.35 | 38.73 | 7.55% | 30 | 0 | 91,561,675 |
| Jul-18 | | 3.93 | 132.31 | 7.55% | 31 | 0 | 106,156,836 |
| Aug-18 | | 9.83 | 69.64 | 7.55% | 31 | 0 | 97,592,655 |
| Sep-18 | | 86.35 | 18.88 | 7.55% | 30 | 1 | 83,472,961 |
| Oct-18 | | 197.55 | 3.61 | 7.55% | 31 | 1 | 88,627,116 |
| Nov-18 | | 409.93 | - | 7.55% | 30 | 1 | 93,813,793 |
| Dec-18 | | 422.63 | - | 7.55% | 31 | 0 | 104,386,832 |
| Jan-19 | | 550.09 | - | 7.55% | 31 | 0 | 109,505,060 |
| Feb-19 | | 546.61 | - | 7.55% | 28 | 0 | 100,861,487 |
| Mar-19 | | 487.17 | - | 7.55% | 31 | 1 | 99,749,411 |
| Apr-19 | | 327.61 | - | 7.55% | 30 | 1 | 90,508,121 |
| May-19 | | 119.24 | 3.61 | 7.55% | 31 | 1 | 85,482,959 |
| Jun-19 | | 38.35 | 38.73 | 7.55% | 30 | 0 | 91,561,675 |
| Jul-19 | | 3.93 | 132.31 | 7.55% | 31 | 0 | 106,156,836 |
| Aug-19 | | 9.83 | 69.64 | 7.55% | 31 | 0 | 97,592,655 |
| Sep-19 | | 86.35 | 18.88 | 7.55% | 30 | 1 | 83,472,961 |
| Oct-19 | | 197.55 | 3.61 | 7.55% | 31 | 1 | 88,627,116 |
| Nov-19 | | 409.93 | - | 7.55% | 30 | 1 | 93,813,793 |
| Dec-19 | | 422.63 | - | 7.55% | 31 | 0 | 104,386,832 |

APPENDIX 3-4: HDD AND CDD DATA

| Heating Degree Days | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Jan | 654 | 902 | 613 | 732 | 720 | 626 | 732 | 711 | 655 | 547 | 786 |
| Feb | 714 | 705 | 686 | 644 | 564 | 505 | 535 | 587 | 587 | 531 | 687 |
| Mar | 588 | 559 | 485 | 608 | 567 | 510 | 546 | 445 | 550 | 533 | 573 |
| Apr | 342 | 345 | 405 | 394 | 373 | 298 | 308 | 359 | 312 | 336 | 404 |
| May | 192 | 224 | 162 | 227 | 274 | 79 | 118 | 169 | 141 | 235 | 192 |
| Jun | 58 | 47 | 29 | 39 | 29 | 59 | 32 | 56 | 35 | 45 | 55 |
| Jul | 1 | 3 | 13 | 7 | 22 | 5 | 1 | 9 | 18 | 1 | 6 |
| Aug | 9 | 31 | 6 | 4 | 15 | 5 | 13 | 15 | 1 | 4 | 10 |
| Sep | 128 | 67 | 115 | 63 | 92 | 48 | 52 | 109 | 69 | 25 | 55 |
| Oct | 307 | 256 | 215 | 262 | 276 | 226 | 257 | 235 | 252 | 274 | 290 |
| Nov | 435 | 365 | 481 | 486 | 444 | 387 | 374 | 412 | 339 | 432 | 388 |
| Dec | 604 | 549 | 682 | 531 | 563 | 520 | 562 | 741 | 494 | 593 | 548 |

| Heating Degree Days | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|------------------------|------|------|------|------|------|------|------|------|------|------|
| Jan | 829 | 746 | 558 | 573 | 433 | 684 | 700 | 761 | 611 | 615 |
| Feb | 616 | 590 | 609 | 694 | 318 | 595 | 584 | 634 | 536 | 612 |
| Mar | 487 | 578 | 534 | 478 | 430 | 442 | 411 | 560 | 399 | 545 |
| Apr | 345 | 325 | 324 | 280 | 145 | 314 | 244 | 351 | 337 | 367 |
| May | 178 | 216 | 173 | 73 | 151 | 170 | 122 | 158 | 109 | 133 |
| Jun | 73 | 14 | 23 | 6 | 16 | 58 | 19 | 27 | 28 | 43 |
| Jul | 2 | 2 | 2 | 9 | 1 | 17 | 4 | 0 | 0 | 4 |
| Aug | 20 | 0 | 4 | 4 | 14 | 13 | 3 | 4 | 4 | 11 |
| Sep | 42 | 37 | 71 | 20 | 52 | 65 | 86 | 49 | 84 | 97 |
| Oct | 235 | 224 | 275 | 102 | 203 | 288 | 248 | 225 | 229 | 221 |
| Nov | 386 | 399 | 368 | 314 | 269 | 347 | 389 | 350 | 428 | 459 |
| Dec | 628 | 641 | 472 | 338 | 379 | 619 | 629 | 531 | 451 | 408 |

| Heating Degree Days | 10 Year Average | 10 Year Trend | 20 Year Average | 20 Year Trend |
|------------------------|--------------------|------------------|--------------------|------------------|
| Jan | 651 | 610 | 677 | 612 |
| Feb | 579 | 567 | 591 | 557 |
| Mar | 486 | 460 | 512 | 464 |
| Apr | 303 | 319 | 328 | 289 |
| May | 148 | 113 | 165 | 126 |
| Jun | 31 | 28 | 37 | 28 |
| Jul | 4 | 4 | 6 | 2 |
| Aug | 8 | 6 | 9 | 5 |
| Sep | 60 | 91 | 65 | 59 |
| Oct | 225 | 231 | 240 | 222 |
| Nov | 371 | 407 | 391 | 360 |
| Dec | 510 | 446 | 544 | 473 |
| | 3,375 | 3283 | 3,564 | 3199 |

| Cooling Degree Days | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Jan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Feb | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Apr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| May | 2 | 1 | 0 | 2 | 0 | 11 | 3 | 0 | 2 | 3 | 0 |
| Jun | 18 | 39 | 53 | 23 | 40 | 55 | 55 | 14 | 46 | 41 | 31 |
| Jul | 91 | 83 | 100 | 44 | 68 | 75 | 135 | 45 | 68 | 131 | 59 |
| Aug | 97 | 41 | 115 | 74 | 35 | 82 | 66 | 67 | 120 | 100 | 107 |
| Sep | 10 | 9 | 7 | 29 | 3 | 28 | 39 | 23 | 24 | 52 | 12 |
| Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| Nov | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dec | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Cooling Degree Days | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|------------------------|------|------|------|------|------|------|------|------|------|------|
| Jan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Feb | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Apr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| May | 0 | 0 | 13 | 5 | 0 | 0 | 23 | 3 | 22 | 3 |
| Jun | 16 | 90 | 36 | 33 | 24 | 26 | 47 | 37 | 64 | 32 |
| Jul | 69 | 153 | 108 | 42 | 61 | 26 | 124 | 141 | 155 | 110 |
| Aug | 54 | 108 | 82 | 88 | 30 | 78 | 97 | 81 | 103 | 58 |
| Sep | 27 | 33 | 5 | 12 | 15 | 9 | 19 | 35 | 24 | 16 |
| Oct | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Nov | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dec | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Cooling Degree Days | 10 Year Average | 10 Year Trend | 20 Year Average | 20 Year Trend |
|------------------------|--------------------|------------------|--------------------|------------------|
| Jan | 0 | 0 | 0 | 0 |
| Feb | 0 | 0 | 0 | 0 |
| Mar | 0 | 0 | 0 | 0 |
| Apr | 0 | 0 | 0 | 0 |
| May | 7 | 13 | 4 | 10 |
| Jun | 40 | 41 | 40 | 40 |
| Jul | 99 | 124 | 90 | 111 |
| Aug | 78 | 80 | 79 | 84 |
| Sep | 19 | 19 | 21 | 22 |
| Oct | 0 | 1 | 0 | 1 |
| Nov | 0 | 0 | 0 | 0 |
| Dec | 0 | 0 | 0 | 0 |
| | 244 | 279 | 235 | 267 |

TRANSFORMER ALLOWANCE

OPUCN currently provides a Transformer Ownership Allowance Credit of \$0.60 per kW of demand per month for eligible customers in GS > 50 kW categories who own their own transformer facilities.

The following tables provide the kW's allowed and the transformer allowances for the: Board-Approved 2012 allowance ; 2012 and 2013 actual results; and forecast 2014 Bridge Year and 2015 through 2019 Test Years:

kW

| Rate Class | Board-Approved | Actual | | Bridge Year | Test Years | | | | |
|---------------------------|----------------|---------|---------|-------------|------------|---------|---------|---------|---------|
| | 2012 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| GS 50 to 999 kW (I1 & I4) | 118,016 | 115,014 | 109,652 | 115,115 | 120,407 | 126,087 | 130,965 | 136,219 | 141,541 |
| GS 1,000 to 4,999 kW (I2) | 165,014 | 169,396 | 172,419 | 149,007 | 136,912 | 126,925 | 115,667 | 106,347 | 97,603 |
| Large Use (I3) | 67,204 | 90,233 | 92,754 | 99,133 | 102,201 | 105,271 | 108,164 | 111,044 | 113,944 |
| TOTAL | 350,234 | 374,642 | 374,825 | 363,254 | 359,520 | 358,283 | 354,796 | 353,610 | 353,088 |

\$ ALLOWANCE

| Rate Class | Board-Approved | Actual | | Bridge Year | Test Years | | | | |
|---------------------------|----------------|------------|------------|-------------|------------|------------|------------|------------|------------|
| | 2012 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| GS 50 to 999 kW (I1 & I4) | 70,810 | 69,008 | 65,791 | 69,069 | 72,244 | 75,652 | 78,579 | 81,732 | 84,925 |
| GS 1,000 to 4,999 kW (I2) | 99,009 | 101,637 | 103,451 | 89,404 | 82,147 | 76,155 | 69,400 | 63,808 | 58,562 |
| Large Use (I3) | 40,322 | 54,140 | 55,652 | 59,480 | 61,321 | 63,162 | 64,899 | 66,626 | 68,366 |
| TOTAL | \$ 210,141 | \$ 224,785 | \$ 224,895 | \$ 217,953 | \$ 215,712 | \$ 214,970 | \$ 212,878 | \$ 212,166 | \$ 211,853 |

OPUCN is proposing to maintain the rate of \$0.60 per kW of demand per month for the 2015 through 2019 Test Years for eligible customers.

OTHER OPERATING REVENUE

Table 3-36 provides a summary of Other Operating Revenue for the: 2012 Board-Approved amounts; actual results for 2012 and 2013; and forecast revenue for the 2014 Bridge Year and 2015 through 2019 Test Years.

TABLE 3-36 - SUMMARY OF OTHER OPERATING REVENUE

| Account | Account Description | Board- Approved | Actual | | Bridge Year | Test Years at Proposed Rates | | | | |
|----------------------------------|--|--------------------|-----------|-------------|-------------|------------------------------|-------------|-------------|-------------|-------------|
| | | 2012 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| 4080 | Distribution Services Revenue (SSS Charge) | 133,400 | 141,981 | 147,901 | 150,861 | 158,568 | 164,872 | 172,185 | 179,242 | 186,125 |
| 4082 | Retail Services Revenue | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4084 | Retailed Transaction Requests (ST) Revenue | 3,563 | 1,725 | 1,324 | 1,324 | 1,326 | 1,327 | 1,328 | 1,330 | 1,331 |
| 4210 | Rent From Electric Property | 150,320 | 200,944 | 179,439 | 176,388 | 176,388 | 176,388 | 176,388 | 176,388 | 176,388 |
| 4225 | Late Payment Charges | 279,117 | 282,631 | 266,827 | 280,973 | 290,256 | 299,847 | 309,754 | 319,989 | 330,562 |
| 4235 | Miscellaneous Service Revenue | 940,286 | 828,161 | 817,279 | 788,337 | 810,965 | 834,340 | 858,487 | 883,432 | 909,201 |
| 4325 | Revenue From Merchandise - Jobbing | 925,000 | 259,036 | 182,811 | 1,388,670 | 1,388,670 | 1,388,670 | 1,388,670 | 1,388,670 | 1,388,670 |
| 4330 | Costs From Merchandise - Jobbing | (925,000) | (233,462) | (174,759) | (1,375,610) | (1,375,610) | (1,375,610) | (1,375,610) | (1,375,610) | (1,375,610) |
| 4355 | Gain on Disposal of Utility and Other Property | 0 | (78,877) | 5,283 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4357 | Gain on Retirement of Utility and Other Property | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4360 | Loss on Disposal of Utility and Other Property | 0 | 0 | (213,702) | (302,875) | (396,446) | (265,096) | (182,214) | (403,265) | (381,240) |
| 4362 | Loss on Retirement of Utility and Other Property | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4375 | Revenues from Non-Utility Operations | 10,000 | 1,077,322 | 2,756,926 | 2,376,719 | 2,376,719 | 2,376,719 | 2,376,719 | 2,376,719 | 2,376,719 |
| 4380 | Expenses of Non-Utility Operations | 0 | (719,442) | (2,369,144) | (2,369,144) | (2,369,144) | (2,369,144) | (2,369,144) | (2,369,144) | (2,369,144) |
| 4390 | Miscellaneous Non-Operating Income | 91,000 | 107,242 | 182,424 | 146,629 | 146,629 | 146,629 | 146,629 | 146,629 | 146,629 |
| 4405 | Interest and Dividend Income | 184,371 | 162,774 | 152,039 | 128,000 | 128,000 | 128,000 | 128,000 | 128,000 | 128,000 |
| Total Other Distribution Revenue | | 1,792,057 | 2,030,035 | 1,934,649 | 1,390,271 | 1,336,319 | 1,506,940 | 1,631,192 | 1,452,379 | 1,517,631 |

MATERIALITY THRESHOLD

Section 2.4.5 of *Filing Requirements For Electricity Distribution Rate Applications – 2014 Edition for 2015 Rates Applications* – (“Filing Requirements”) set out the methodology for calculating the materiality threshold that distributors are to use to explain year over year variances exceeding this threshold for rate base, capital expenditures and OM&A.

The Filing Requirements state the relevant default materiality threshold as, “0.5% of operating revenue for distributors with a revenue requirement greater than \$10 million and less than or equal to \$200 million.”

OPUCN’s revenue requirement exceeds \$10 million and is less than \$200 million and as such the materiality threshold is calculated as 0.5% of the Company’s operating revenue. With an operating revenue requirement ranging from \$18.1 million and \$25.6 million, OPUCN has calculated a materiality threshold ranging from \$90,000 to \$130,000, as reported in the following table.

| | At Board-Approved Rates | | | | Test Years at Proposed Rates | | | | |
|----------------------------|-------------------------|-----------------|-----------------|---------------------|------------------------------|-------------|-------------|-------------|-------------|
| | 2012 Board Approved | 2012 Audited | 2013 Audited | 2014 Bridge Year | 2015 | 2016 | 2017 | 2018 | 2019 |
| Total Distribution Revenue | 20,043,143 | 19,842,114 | 19,859,729 | 19,503,876 | 22,901,583 | 25,054,593 | 26,022,430 | 27,057,622 | 27,711,474 |
| Other Distribution Revenue | (1,792,057) | (2,030,035) | (1,934,649) | (1,390,271) | (1,336,319) | (1,506,940) | (1,631,192) | (1,452,379) | (1,517,631) |
| Operating Revenue | 18,251,085 | 17,812,079 | 17,925,081 | 18,113,604 | 21,565,264 | 23,547,653 | 24,391,239 | 25,605,243 | 26,193,843 |
| Materiality Threshold Rate | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% |
| Materiality Threshold Rate | 91,255 | 89,060 | 89,625 | 90,568 | 107,826 | 117,738 | 121,956 | 128,026 | 130,969 |

In an effort to provide a thorough and relevant analysis OPUCN has used a materiality threshold of \$100,000 throughout this Application.

VARIANCE ANALYSIS

2012 Board-Approved Comparison to 2012 Actual – Other Distribution Revenue

The table below summarizes the variance by account description followed by a discussion on those material variances over \$100,000.

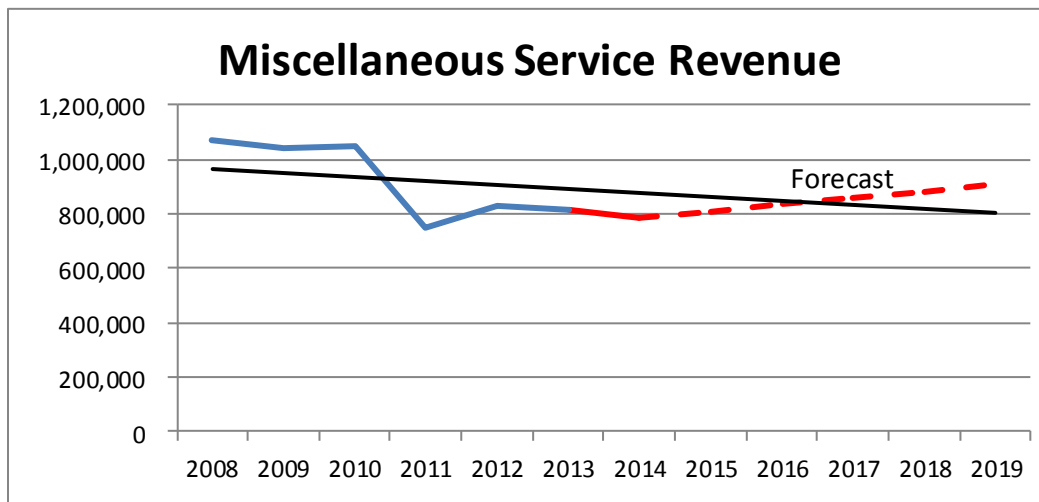
| Account | Account Description | Board- Approved | Actual | Variance | |
|----------------------------------|--|--------------------|-----------|-----------|-----------|
| | | 2012 | 2012 | \$ | % |
| 4080 | Distribution Services Revenue (SSS Charge) | 133,400 | 141,981 | 8,581 | 6.43% |
| 4082 | Retail Services Revenue | 0 | 0 | 0 | 0.00% |
| 4084 | Retailed Transaction Requests (ST) Revenue | 3,563 | 1,725 | (1,839) | -51.60% |
| 4210 | Rent From Electric Property | 150,320 | 200,944 | 50,624 | 33.68% |
| 4225 | Late Payment Charges | 279,117 | 282,631 | 3,514 | 1.26% |
| 4235 | Miscellaneous Service Revenue | 940,286 | 828,161 | (112,125) | -11.92% |
| 4325 | Revenue From Merchandise - Jobbing | 925,000 | 259,036 | (665,964) | -72.00% |
| 4330 | Costs From Merchandise - Jobbing | (925,000) | (233,462) | 691,538 | -74.76% |
| 4355 | Gain on Disposal of Utility and Other Property | 0 | (78,877) | (78,877) | 0.00% |
| 4357 | Gain on Retirement of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4360 | Loss on Disposal of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4362 | Loss on Retirement of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4375 | Revenues from Non-Utility Operations | 10,000 | 1,077,322 | 1,067,322 | 10673.26% |
| 4380 | Expenses of Non-Utility Operations | 0 | (719,442) | (719,442) | 0.00% |
| 4390 | Miscellaneous Non-Operating Income | 91,000 | 107,242 | 16,242 | 17.85% |
| 4405 | Interest and Dividend Income | 184,371 | 162,774 | (21,598) | -11.71% |
| Total Other Distribution Revenue | | 1,792,057 | 2,030,035 | 237,978 | 13.28% |

OPUCN's 2012 other distribution revenue totaling \$2,030,035 was 13.3% or \$237,978 more than the Board-Approved amount of \$1,792,057.

Revenues from Non-Utility Operations, net of Expenses (Accounts 4375 less 4380) were \$347,880 higher than the Board-Approved amount of \$10,000. Lost Revenue Adjustment Mechanism (LRAM) related to CDM programs implemented under the CDM Code accounted for \$339,963 of the total variance.

Account 4235 – Miscellaneous Service Revenue was lower than Board-Approved amounts by nearly 12%, or \$112,125. In its 2012 cost of service rate application, OPUCN predicted a decline in miscellaneous service revenue as a result of regulatory changes to the Distribution System Code (“DSC”), Retail Settlement Code (“RSC”) and Standard Supply Service Code (“SSC”) introduced in Board File No EB-2007-0722 in 2010 and 2011. The new regulations imposed restrictions on collection, disconnect and reconnect charges that OPUCN believed would result in significant reductions to service revenue streams.

The historical trend provided in the following chart highlights the impact of the regulatory changes in OPUCN’s opinion:



The Board-Approved amount for 2012 was \$940,286 which was consistent with actual 2010 results. However, as OPUCN predicted miscellaneous service revenue decreased; beginning in 2011 (\$748,076) and continuing throughout the rate period (2012 - \$828,161; 2013 – \$817,279). The forecast for the 2014 Bridge Year is expected to continue decreasing in line with the prior year. However, the 2015 through 2019 Test Years are forecast to have a marginal increase for population growth in Oshawa.

OPUCN believes the changes made in regulations will be fully integrated by the end of 2014 and will no longer have a significant impact going forward. OPUCN has not taken into account any further changes to regulations that would further erode service revenue.

In addition to the decrease in miscellaneous service revenue, OPUCN experienced a loss on disposal of assets resulting from retrofit projects whereby utility assets were removed and disposed of; the net book value then written-off. Before IFRS, OPUCN retained the net book value of utility assets in its rate based until fully depreciated.

2013 Actual Comparison to 2012 Actual – Other Operating Revenue

The following table summarizes the variance by account description followed by a discussion on those material variances over \$100,000.

| Account | Account Description | Actual | | Variance | |
|----------------------------------|--|-----------|-------------|-------------|----------|
| | | 2012 | 2013 | \$ | % |
| 4080 | Distribution Services Revenue (SSS Charge) | 141,981 | 147,901 | 5,920 | 4.17% |
| 4082 | Retail Services Revenue | 0 | 0 | 0 | 0.00% |
| 4084 | Retailed Transaction Requests (ST) Revenue | 1,725 | 1,324 | (400) | -23.21% |
| 4210 | Rent From Electric Property | 200,944 | 179,439 | (21,505) | -10.70% |
| 4225 | Late Payment Charges | 282,631 | 266,827 | (15,805) | -5.59% |
| 4235 | Miscellaneous Service Revenue | 828,161 | 817,279 | (10,882) | -1.31% |
| 4325 | Revenue From Merchandise - Jobbing | 259,036 | 182,811 | (76,225) | -29.43% |
| 4330 | Costs From Merchandise - Jobbing | (233,462) | (174,759) | 58,703 | -25.14% |
| 4355 | Gain on Disposal of Utility and Other Property | (78,877) | 5,283 | 84,160 | -106.70% |
| 4357 | Gain on Retirement of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4360 | Loss on Disposal of Utility and Other Property | 0 | (213,702) | (213,702) | 0.00% |
| 4362 | Loss on Retirement of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4375 | Revenues from Non-Utility Operations | 1,077,322 | 2,756,926 | 1,679,604 | 155.91% |
| 4380 | Expenses of Non-Utility Operations | (719,442) | (2,369,144) | (1,649,703) | 229.30% |
| 4390 | Miscellaneous Non-Operating Income | 107,242 | 182,424 | 75,183 | 70.11% |
| 4405 | Interest and Dividend Income | 162,774 | 152,039 | (10,734) | -6.59% |
| Total Other Distribution Revenue | | 2,030,035 | 1,934,649 | (95,386) | -4.70% |

Other distribution revenue decreased year over year by \$95,386, or 4.7%. Net Losses on Disposal and Retirement of Utility and Other Property was the most significant factor resulting in a net year over year decrease of \$129,542. As noted above, OPUCN recognizes losses on disposal of assets under IFRS accounting standards.

Revenues from Non-Utility Operations, net of Expenses (Accounts 4375 less 4380) were \$29,901 higher in 2013 than in 2012. LRAM was \$262,055 in 2013 compared with \$339,963 in 2012. In addition, OPUCN received a CDM ERIP Incentive from the OPA in 2013 totaling \$121,948. The remaining increase of \$14,139 related to other miscellaneous revenues.

2014 Bridge Year Comparison to 2013 Actual – Other Operating Revenue

The table below summarizes the variance by account description followed by a discussion on those material variances over \$100,000.

| Account | Account Description | Actual | Bridge Year | Variance | |
|----------------------------------|--|-------------|-------------|-------------|----------|
| | | 2013 | 2014 | \$ | % |
| 4080 | Distribution Services Revenue (SSS Charge) | 147,901 | 150,861 | 2,960 | 2.00% |
| 4082 | Retail Services Revenue | 0 | 0 | 0 | 0.00% |
| 4084 | Retailed Transaction Requests (ST) Revenue | 1,324 | 1,324 | 0 | 0.00% |
| 4210 | Rent From Electric Property | 179,439 | 176,388 | (3,051) | -1.70% |
| 4225 | Late Payment Charges | 266,827 | 280,973 | 14,146 | 5.30% |
| 4235 | Miscellaneous Service Revenue | 817,279 | 788,337 | (28,942) | -3.54% |
| 4325 | Revenue From Merchandise - Jobbing | 182,811 | 1,388,670 | 1,205,858 | 659.62% |
| 4330 | Costs From Merchandise - Jobbing | (174,759) | (1,375,610) | (1,200,851) | 687.15% |
| 4355 | Gain on Disposal of Utility and Other Property | 5,283 | 0 | (5,283) | -100.00% |
| 4357 | Gain on Retirement of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4360 | Loss on Disposal of Utility and Other Property | (213,702) | (302,875) | (89,173) | 41.73% |
| 4362 | Loss on Retirement of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4375 | Revenues from Non-Utility Operations | 2,756,926 | 2,376,719 | (380,207) | -13.79% |
| 4380 | Expenses of Non-Utility Operations | (2,369,144) | (2,369,144) | 0 | 0.00% |
| 4390 | Miscellaneous Non-Operating Income | 182,424 | 146,629 | (35,795) | -19.62% |
| 4405 | Interest and Dividend Income | 152,039 | 128,000 | (24,039) | -15.81% |
| Total Other Distribution Revenue | | 1,934,649 | 1,390,271 | (544,377) | -28.14% |

OPUCN is estimating total other distribution revenue will decrease \$544,377 or 28.1% in 2014 compared with 2013.

Net Losses on Disposal and Retirement of Utility and Other Property is forecast to decrease by \$94,456 year over year. As noted above, OPUCN recognizes losses on disposal of assets under IFRS accounting standards.

Revenues from Non-Utility Operations, net of Expenses (Accounts 4375 less 4380) are expected to be \$380,207 less in 2014 than in 2013. OPUCN is no longer recovering LRAM in 2014; it received \$262,055 in 2013 and \$339,963 in 2012. In addition, OPUCN received a CDM ERIP Incentive from the OPA in 2013 totaling \$121,948 which was a one-time event.

Miscellaneous service revenue is expected to continue its year over year decline (\$28,942) and, miscellaneous non-operating income (\$35,795) and interest and dividend income (\$24,039) is expected to be lower.

2015 TEST YEAR COMPARISON TO 2014 BRIDGE YEAR – OTHER OPERATING REVENUE

The table below summarizes the variance by account description followed by a discussion on those material variances over \$100,000.

| Account | Account Description | Bridge Year | Test Year | Variance | |
|----------------------------------|--|-------------|-------------|----------|--------|
| | | 2014 | 2015 | \$ | % |
| 4080 | Distribution Services Revenue (SSS Charge) | 150,861 | 158,568 | 7,707 | 5.11% |
| 4082 | Retail Services Revenue | 0 | 0 | 0 | 0.00% |
| 4084 | Retailed Transaction Requests (ST) Revenue | 1,324 | 1,326 | 1 | 0.10% |
| 4210 | Rent From Electric Property | 176,388 | 176,388 | 0 | 0.00% |
| 4225 | Late Payment Charges | 280,973 | 290,256 | 9,284 | 3.30% |
| 4235 | Miscellaneous Service Revenue | 788,337 | 810,965 | 22,627 | 2.87% |
| 4325 | Revenue From Merchandise - Jobbing | 1,388,670 | 1,388,670 | 0 | 0.00% |
| 4330 | Costs From Merchandise - Jobbing | (1,375,610) | (1,375,610) | 0 | 0.00% |
| 4355 | Gain on Disposal of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4357 | Gain on Retirement of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4360 | Loss on Disposal of Utility and Other Property | (302,875) | (396,446) | (93,572) | 30.89% |
| 4362 | Loss on Retirement of Utility and Other Property | 0 | 0 | 0 | 0.00% |
| 4375 | Revenues from Non-Utility Operations | 2,376,719 | 2,376,719 | 0 | 0.00% |
| 4380 | Expenses of Non-Utility Operations | (2,369,144) | (2,369,144) | 0 | 0.00% |
| 4390 | Miscellaneous Non-Operating Income | 146,629 | 146,629 | 0 | 0.00% |
| 4405 | Interest and Dividend Income | 128,000 | 128,000 | 0 | 0.00% |
| Total Other Distribution Revenue | | 1,390,271 | 1,336,319 | (53,952) | -3.88% |

OPUCN is forecasting marginal increases in SSS charges, late payment fees and miscellaneous service revenue related to population growth, and significantly lower losses on its disposal of utility assets.

The primary factor for the decline of \$53,952 is Net Losses on Disposal of Utility and Other Property which will result in a decrease of \$93,572. OPUCN has forecast significant utility asset write-offs resulting from its retrofit work in connection with the expansion of the 407 Highway.

2016 THROUGH 2019 TEST YEARS FORECAST TO 2015 TEST YEAR FORECAST OPERATING REVENUE

The tables below summarize the variance by account description followed by a discussion on those material variances over \$100,000.

| Account | Account Description | Test Year | Test Years | | | | |
|----------------------------------|--|-------------|-------------|-------------|-------------|-------------|--|
| | | 2015 | 2016 | 2017 | 2018 | 2019 | |
| 4080 | Distribution Services Revenue (SSS Charge) | 158,568 | 164,872 | 172,185 | 179,242 | 186,125 | |
| 4082 | Retail Services Revenue | 0 | 0 | 0 | 0 | 0 | |
| 4084 | Retailed Transaction Requests (ST) Revenue | 1,326 | 1,326 | 1,326 | 1,327 | 1,326 | |
| 4210 | Rent From Electric Property | 176,388 | 176,388 | 176,388 | 176,388 | 176,388 | |
| 4225 | Late Payment Charges | 290,256 | 299,847 | 309,754 | 319,989 | 330,562 | |
| 4235 | Miscellaneous Service Revenue | 810,965 | 834,340 | 858,487 | 883,432 | 909,201 | |
| 4325 | Revenue From Merchandise - Jobbing | 1,388,670 | 1,388,670 | 1,388,670 | 1,388,670 | 1,388,670 | |
| 4330 | Costs From Merchandise - Jobbing | (1,375,610) | (1,375,610) | (1,375,610) | (1,375,610) | (1,375,610) | |
| 4355 | Gain on Disposal of Utility and Other Property | 0 | 0 | 0 | 0 | 0 | |
| 4357 | Gain on Retirement of Utility and Other Property | 0 | 0 | 0 | 0 | 0 | |
| 4360 | Loss on Disposal of Utility and Other Property | (396,446) | (265,096) | (182,214) | (403,265) | (381,240) | |
| 4362 | Loss on Retirement of Utility and Other Property | 0 | 0 | 0 | 0 | 0 | |
| 4375 | Revenues from Non-Utility Operations | 2,376,719 | 2,376,719 | 2,376,719 | 2,376,719 | 2,376,719 | |
| 4380 | Expenses of Non-Utility Operations | (2,369,144) | (2,369,144) | (2,369,144) | (2,369,144) | (2,369,144) | |
| 4390 | Miscellaneous Non-Operating Income | 146,629 | 146,629 | 146,629 | 146,629 | 146,629 | |
| 4405 | Interest and Dividend Income | 128,000 | 128,000 | 128,000 | 128,000 | 128,000 | |
| Total Other Distribution Revenue | | 1,336,319 | 1,506,939 | 1,631,190 | 1,452,376 | 1,517,626 | |

| Account | Account Description | \$ Variance | | | | % Variance | | | |
|----------------------------------|--|-------------|---------|-----------|--------|------------|---------|---------|--------|
| | | 2016 | 2017 | 2018 | 2019 | 2016 | 2017 | 2018 | 2019 |
| 4080 | Distribution Services Revenue (SSS Charge) | 6,304 | 7,314 | 7,057 | 6,883 | 3.98% | 4.44% | 4.10% | 3.84% |
| 4082 | Retail Services Revenue | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4084 | Retailed Transaction Requests (ST) Revenue | 0 | 0 | 0 | (1) | 0.02% | 0.02% | 0.02% | -0.05% |
| 4210 | Rent From Electric Property | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4225 | Late Payment Charges | 9,591 | 9,907 | 10,235 | 10,573 | 3.30% | 3.30% | 3.30% | 3.30% |
| 4235 | Miscellaneous Service Revenue | 23,375 | 24,147 | 24,945 | 25,769 | 2.88% | 2.89% | 2.91% | 2.92% |
| 4325 | Revenue From Merchandise - Jobbing | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4330 | Costs From Merchandise - Jobbing | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4355 | Gain on Disposal of Utility and Other Property | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4357 | Gain on Retirement of Utility and Other Property | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4360 | Loss on Disposal of Utility and Other Property | 131,350 | 82,883 | (221,051) | 22,025 | -33.13% | -31.27% | 121.31% | -5.46% |
| 4362 | Loss on Retirement of Utility and Other Property | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4375 | Revenues from Non-Utility Operations | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4380 | Expenses of Non-Utility Operations | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4390 | Miscellaneous Non-Operating Income | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| 4405 | Interest and Dividend Income | 0 | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | 0.00% |
| Total Other Distribution Revenue | | 170,620 | 124,251 | (178,813) | 65,249 | 12.77% | 8.25% | -10.96% | 4.49% |

OPUCN is forecasting marginal increases in SSS charges, late payment fees and miscellaneous service revenue related to population growth, and significantly lower losses on its disposal of utility assets.

The amount forecast for loss on disposal of utility assets is based upon the levels of retrofit activity included in OPUCN's Distribution System Plan.