

## EXHIBIT 3 - OPERATING REVENUE

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1    **OVERVIEW ON OPERATING REVENUE**

2    This Exhibit provides the details of PDI's operating revenue for 2009 Board Approved, 2009  
3    Actual, 2010 Actual, 2011 Actual, the 2012 Bridge Year and the 2013 Test Year. This Exhibit  
4    also provides a detailed variance analysis by rate class of the operating revenue components.  
5    Distribution excludes revenue from commodity sales.

6    PDI is proposing a total Service Revenue Requirement of \$16,291,837 for the 2013 Test Year.  
7    This amount includes a Base Revenue Requirement of \$15,028,837 plus revenue offsets of  
8    \$1,263,000 to be recovered through Other Distribution Revenue. A summary of operating  
9    revenue is provided on the next page in Table 3-1.

10   **Throughput Revenue**

11   Information related to PDI's throughput revenue includes details on the weather normalized load  
12   forecasting methodology reflecting expected CDM results and a forecast of customers by rate  
13   class based on the historical number of customers billed throughout the year.

14   A detailed variance analysis on the historical throughput revenue is provided in this exhibit, Tab  
15   1, Schedule 2.

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## 1 Other Operating Revenue

2 Other revenues include specific service charges, standard service supply (SSS) administration  
3 charges, late payment charges, retail services and transaction revenues, pole rental revenue, and  
4 interest and dividend income.

5 A detailed variance analysis on other revenue is set out later on this exhibit at Tab 1, Schedule 5.

## 6 Table 3-1 Summary of Operating Revenue

| USoA #                                       | Description                 | Board<br>Approved<br>2009 | Actual<br>2009    | Actual<br>2010    | Actual<br>2011    | Bridge Year<br>2012 | Test Year -<br>Current<br>Rates<br>2013 | Test Year -<br>Proposed<br>Rates<br>2013 |
|----------------------------------------------|-----------------------------|---------------------------|-------------------|-------------------|-------------------|---------------------|-----------------------------------------|------------------------------------------|
| <b>Distribution Throughput Revenue</b>       |                             |                           |                   |                   |                   |                     |                                         |                                          |
| 4080                                         | Residential                 | 7,691,121                 | 7,694,772         | 7,715,800         | 7,664,766         | 7,843,713           | 7,952,109                               | 8,811,682                                |
| 4080                                         | General Service < 50 kW     | 2,306,768                 | 2,138,280         | 2,308,025         | 2,242,628         | 2,274,315           | 2,282,022                               | 2,377,699                                |
| 4080                                         | General Service > 50 kW     | 2,480,778                 | 2,696,428         | 2,922,838         | 2,948,693         | 3,026,916           | 3,107,588                               | 2,982,566                                |
| 4080                                         | Large User                  | 163,274                   | 132,682           | 210,817           | 234,809           | 239,998             | 235,212                                 | 245,073                                  |
| 4080                                         | Street Lighting             | 582,749                   | 205,099           | 435,750           | 516,612           | 523,687             | 505,234                                 | 523,393                                  |
| 4080                                         | Sentinel Lighting           | 54,883                    | 25,449            | 49,841            | 54,823            | 53,405              | 51,688                                  | 32,338                                   |
| 4080                                         | Unmetered Scattered Loads   | 282,837                   | 74,857            | 219,285           | 290,404           | 294,760             | 290,236                                 | 56,086                                   |
| <b>Total Distribution Throughput Revenue</b> |                             | <b>13,562,410</b>         | <b>12,967,566</b> | <b>13,862,355</b> | <b>13,952,736</b> | <b>14,256,794</b>   | <b>14,424,089</b>                       | <b>15,028,837</b>                        |
| <b>% of Total Revenue</b>                    |                             | <b>89%</b>                | <b>91%</b>        | <b>91%</b>        | <b>92%</b>        | <b>92%</b>          | <b>92%</b>                              | <b>92%</b>                               |
| <b>Other Revenue</b>                         |                             |                           |                   |                   |                   |                     |                                         |                                          |
| 4082                                         | Retail Services Revenues    | 30,000                    | 34,566            | 34,326            | 27,299            | 22,000              | 22,000                                  | 22,000                                   |
| 4084                                         | STR Revenue                 | 20,000                    | 19,532            | 20,769            | 15,678            | 11,000              | 11,000                                  | 11,000                                   |
| 4086                                         | SSS Administration Revenue  | 88,000                    | 89,560            | 91,279            | 95,183            | 95,000              | 95,000                                  | 95,000                                   |
| 4210                                         | Rent from Electric Property | 211,851                   | 216,325           | 204,294           | 210,681           | 210,000             | 210,000                                 | 210,000                                  |
| 4225                                         | Late Payment Charges        | 190,000                   | 203,845           | 203,072           | 207,858           | 200,000             | 200,000                                 | 200,000                                  |
| 4235                                         | Specific Service Charges    | 630,000                   | 731,535           | 712,961           | 620,946           | 644,000             | 650,000                                 | 650,000                                  |
| 4405                                         | Interest & Dividend Income  | 449,000                   | 10,836            | 82,940            | 75,551            | 82,000              | 75,000                                  | 75,000                                   |
| <b>Total Other Revenue</b>                   |                             | <b>1,618,851</b>          | <b>1,306,199</b>  | <b>1,349,641</b>  | <b>1,253,196</b>  | <b>1,264,000</b>    | <b>1,263,000</b>                        | <b>1,263,000</b>                         |
| <b>% of Total Revenue</b>                    |                             | <b>11%</b>                | <b>9%</b>         | <b>9%</b>         | <b>8%</b>         | <b>8%</b>           | <b>8%</b>                               | <b>8%</b>                                |
| <b>TOTAL REVENUE</b>                         |                             | <b>15,181,261</b>         | <b>14,273,765</b> | <b>15,211,996</b> | <b>15,205,932</b> | <b>15,520,794</b>   | <b>15,687,089</b>                       | <b>16,291,837</b>                        |

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## VARIANCE ANALYSIS ON OPERATING REVENUE

Variance analysis of throughput revenue for the years 2009 through 2013 is provided below.

### 2009 Board Approved vs 2009 Actual

PDI's 2009 actual distribution revenue was \$12.97 million compared to the Board approved amount of \$14.47 million as shown in Table 3-2 below. The difference of \$1.5 million primarily relates to implementation of the 2009 Approved Board rates in July. The rate increases did not have a full year to take effect. Actual kWh's in the last half of the year for some classes was also below the forecasted amount.

**Table 3-2 2009 Board Approved vs 2009 Actual Revenue by Class**

| USoA #                                       | USoA Description          | Board Approved<br>2009 | Actual<br>2009       | Difference<br>\$     | Difference<br>% |
|----------------------------------------------|---------------------------|------------------------|----------------------|----------------------|-----------------|
| <b>Throughput Revenue</b>                    |                           |                        |                      |                      |                 |
| 4080                                         | Residential               | 8,335,707              | 7,694,772            | (640,935)            | -8%             |
| 4080                                         | General Service < 50 kW   | 2,430,494              | 2,138,280            | (292,214)            | -12%            |
| 4080                                         | General Service > 50 kW   | 2,942,615              | 2,696,428            | (246,187)            | -8%             |
| 4080                                         | Large User                | 206,750                | 132,682              | (74,068)             | -36%            |
| 4080                                         | Street Lighting           | 347,554                | 205,099              | (142,455)            | -41%            |
| 4080                                         | Sentinel Lighting         | 35,515                 | 25,449               | (10,066)             | -28%            |
| 4080                                         | Unmetered Scattered Loads | 175,341                | 74,857               | (100,484)            | -57%            |
| <b>Total Distribution Throughput Revenue</b> |                           | <b>\$ 14,473,976</b>   | <b>\$ 12,967,566</b> | <b>-\$ 1,506,410</b> | <b>-10%</b>     |

### 2010 Actual vs 2009 Actual

Total Distribution revenue was \$894,790 higher in 2010 compared to 2009. The increase in 2010 relative to 2009 is a result of 2010 revenue being made up of 2009 and 2010 approved rate schedules which were comparatively higher than those of 2008 which made up six months of the

calendar 2009 results. Table 3-3 below provides detailed line by line variance analysis for 2010 relative to 2009.

Rate increases for 2009 in the large user, street lighting, sentinel lighting and unmetered scattered load classes reflect increases in the revenue to cost ratios for these classes that were approved with the 2009 Cost of Service Application. The 2009 Board Approved rates moved these ratios by 50% of the difference between the updated information filing and the low end of the Board's target range. As mentioned above, the new rates were in effect for a partial year resulting in a shortfall from the Board Approved revenue to the actual revenue recorded for 2009. The Board prescribed a phase-in period to adjust the revenue to cost ratios and the 2010 IRM application approved a further increase to the ratios for these classes in order to reach the bottom of the Board's target ranges.

**Table 3-3 2010 Actual vs 2009 Actual Revenue by Class**

| USoA #                                       | USoA Description          | Actual<br>2009       | Actual<br>2010       | Difference<br>\$  | Difference<br>% |
|----------------------------------------------|---------------------------|----------------------|----------------------|-------------------|-----------------|
| <b>Throughput Revenue</b>                    |                           |                      |                      |                   |                 |
| 4080                                         | Residential               | 7,694,772            | 7,715,800            | 21,028            | 0%              |
| 4080                                         | General Service □ < 50 kW | 2,138,280            | 2,308,025            | 169,745           | 8%              |
| 4080                                         | General Service □ > 50 kW | 2,696,428            | 2,922,838            | 226,410           | 8%              |
| 4080                                         | Large User                | 132,682              | 210,817              | 78,136            | 59%             |
| 4080                                         | Street Lighting           | 205,099              | 435,750              | 230,651           | 112%            |
| 4080                                         | Sentinel Lighting         | 25,449               | 49,841               | 24,392            | 96%             |
| 4080                                         | Unmetered Scattered Loads | 74,857               | 219,285              | 144,428           | 193%            |
| <b>Total Distribution Throughput Revenue</b> |                           | <b>\$ 12,967,566</b> | <b>\$ 13,862,355</b> | <b>\$ 894,790</b> | <b>7%</b>       |

**2011 Actual vs 2010 Actual**

Throughput Revenue in 2011 was only \$90,381 higher than 2010 as a result of only minimal changes in the rate tariff from 2010 to 2011. Details of this variance are provided in Table 3-4.

The percentage increases in the large user, street lighting, sentinel lighting and unmetered scattered load classes reflect the 2009 and 2010 revenue to cost ratio adjustments required to bring these classes to the bottom of the Board's target range.

**Table 3-4 2011 Actual vs 2010 Actual Revenue by Class**

| USoA #                                       | USoA Description          | Actual<br>2010       | Actual<br>2011       | Difference<br>\$ | Difference<br>% |
|----------------------------------------------|---------------------------|----------------------|----------------------|------------------|-----------------|
| <b>Throughput Revenue</b>                    |                           |                      |                      |                  |                 |
| 4080                                         | Residential               | 7,715,800            | 7,664,766            | (51,034)         | -1%             |
| 4080                                         | General Service < 50 kW   | 2,308,025            | 2,242,628            | (65,396)         | -3%             |
| 4080                                         | General Service > 50 kW   | 2,922,838            | 2,948,693            | 25,855           | 1%              |
| 4080                                         | Large User                | 210,817              | 234,809              | 23,992           | 11%             |
| 4080                                         | Street Lighting           | 435,750              | 516,612              | 80,862           | 19%             |
| 4080                                         | Sentinel Lighting         | 49,841               | 54,823               | 4,982            | 10%             |
| 4080                                         | Unmetered Scattered Loads | 219,285              | 290,404              | 71,119           | 32%             |
| <b>Total Distribution Throughput Revenue</b> |                           | <b>\$ 13,862,355</b> | <b>\$ 13,952,736</b> | <b>\$ 90,381</b> | <b>1%</b>       |

**2012 Bridge Year vs 2011 Actual**

Throughput Revenue forecasted for 2012 is \$304,058 higher than 2011 as a result of a 0.9% increase in the rate tariff in 2012 relative to 2011 together with an increase in some of the rate determinates utilized to build the 2012 Bridge year estimate. Details of this variance are provided in Table 3-5 below.

1 **Table 3-5 2012 Bridge Year vs 2011 Actual Revenue by Class**

| USoA #                                       | USoA Description          | Actual               | Bridge               | Difference        | Difference |
|----------------------------------------------|---------------------------|----------------------|----------------------|-------------------|------------|
|                                              |                           | 2011                 | 2012                 | \$                | %          |
| <b>Throughput Revenue</b>                    |                           |                      |                      |                   |            |
| 4080                                         | Residential               | 7,664,766            | 7,843,713            | 178,947           | 2%         |
| 4080                                         | General Service □ < 50 kW | 2,242,628            | 2,274,315            | 31,687            | 1%         |
| 4080                                         | General Service □ > 50 kW | 2,948,693            | 3,026,916            | 78,223            | 3%         |
| 4080                                         | Large User                | 234,809              | 239,998              | 5,189             | 2%         |
| 4080                                         | Street Lighting           | 516,612              | 523,687              | 7,075             | 1%         |
| 4080                                         | Sentinel Lighting         | 54,823               | 53,405               | (1,418)           | -3%        |
| 4080                                         | Unmetered Scattered Loads | 290,404              | 294,760              | 4,356             | 1%         |
| <b>Total Distribution Throughput Revenue</b> |                           | <b>\$ 13,952,736</b> | <b>\$ 14,256,794</b> | <b>\$ 304,058</b> | <b>2%</b>  |

3 **2013 Test Year vs 2012 Bridge Year**

4 **Table 3-6 2013 Test Year vs 2012 Bridge Year Revenue by Class**

| USoA #                                       | USoA Description          | Bridge               | Test                 | Difference     | Difference  |
|----------------------------------------------|---------------------------|----------------------|----------------------|----------------|-------------|
|                                              |                           | 2012                 | 2013                 | \$             | %           |
| <b>Throughput Revenue</b>                    |                           |                      |                      |                |             |
| 4080                                         | Residential               | 7,843,713            | 8,811,682            | 967,969        | 12%         |
| 4080                                         | General Service □ < 50 kW | 2,274,315            | 2,377,699            | 103,384        | 5%          |
| 4080                                         | General Service □ > 50 kW | 3,026,916            | 2,982,566            | (44,350)       | -1%         |
| 4080                                         | Large User                | 239,998              | 245,073              | 5,075          | 2%          |
| 4080                                         | Street Lighting           | 523,687              | 523,393              | (294)          | 0%          |
| 4080                                         | Sentinel Lighting         | 53,405               | 32,338               | (21,067)       | -39%        |
| 4080                                         | Unmetered Scattered Loads | 294,760              | 56,086               | (238,674)      | -81%        |
| <b>Total Distribution Throughput Revenue</b> |                           | <b>\$ 14,256,794</b> | <b>\$ 15,028,837</b> | <b>772,043</b> | <b>5.4%</b> |

6 PDI's total throughput revenue for 2013 is \$772,043 higher than the 2012 Bridge Year forecast  
7 as a result of the forecasted increase in the revenue requirement for 2013 as a result of this  
8 application. See Exhibit 6 for an explanation of the revenue deficiency for the 2013 Test Year.

- 1 The decline in revenues for the sentinel lighting and unmetered scattered load classes from 2012
- 2 to 2013 is due to fewer connections in the 2013 updated cost allocation model compared to the
- 3 2009 cost allocation model.

1    **THROUGHPUT REVENUE**

2    **WEATHER NORMALIZED LOAD AND CUSTOMER/CONNECTION**

3    **FORECAST**

4    The purpose of this evidence is to present the process used by PDI to prepare the weather  
5    normalized load and customer/connection forecast used to design the proposed 2013 electricity  
6    distribution rates.

7    In summary, PDI has used the same regression analysis methodology used by a number of  
8    distributors in previous cost of service rate applications to determine a prediction model. With  
9    regard to the overall process of load forecasting, PDI submits that conducting a regression  
10   analysis on historical electricity purchases to produce an equation that will predict purchases is  
11   appropriate. PDI has the data for the amount of electricity (in kWh) purchased from the IESO  
12   for use by PDI's customers. With a regression analysis, these purchases can be related to other  
13   monthly explanatory variables such as heating degree days and cooling degree days which occur  
14   in the same month. The results of the regression analysis produce an equation that predicts the  
15   purchases based on the explanatory variables. This prediction model is then used as the basis to  
16   forecast the total level of weather normalized purchases for the Bridge Year and the Test Year  
17   which is converted to billed kWh by rate class. A detailed explanation of the process is provided  
18   later in this evidence.

19   During proceedings related to the 2009 and 2010 cost of service applications for a number of  
20   other distributors, intervenors expressed concerns with the load forecasting process that was  
21   proposed at the time by those distributors. During the review process of the 2009 cost of service  
22   applications, intervenors suggested the regression analysis should be conducted on an individual  
23   rate class basis and the regression analysis would be based on monthly kWh by rate class. PDI  
24   reviewed the data required to conduct the regression analysis on an individual rate class basis  
25   and was not able to produce monthly consumed values (i.e. the amount consumed in the month  
26   not billed) by rate class.

During the review of 2010 cost of service applications, Board staff and Intervenors expressed concern that the regression analysis assigned coefficients to some variables that were counter intuitive. For example, the customer variable would have a negative coefficient assigned to it which meant as the number of customers increased the energy forecast would have decreased. 2010 applicants explained that this was related to the recent Conservation and Demand Management (“CDM”) savings in the utility but in the view of Board staff and Intervenors this was not a sufficient explanation. Further, the regression analysis indicated that some of the variables used in the load forecasting formula were not statistically significant and should not have been included in the equation. PDI has attempted to address these concerns in the load forecast used in this Application. Based on the OEB’s approval of this methodology in a number of previous cost of service applications, and based on the discussion that follows, PDI submits that its load forecasting methodology is reasonable for the purposes of this Application.

The following provides the material to support the weather normalized load forecast used by PDI in this Application.

**Table 3-7 Summary of Load and Customer/Connection Forecast**

| Year                                                        | Billed<br>(GWh) | Growth<br>(GWh) | Percent<br>Change | Customer/<br>Connection<br>Count | Growth     | Percent<br>Change<br>(%) |
|-------------------------------------------------------------|-----------------|-----------------|-------------------|----------------------------------|------------|--------------------------|
| <b>Billed Energy (GWh) and Customer Count / Connections</b> |                 |                 |                   |                                  |            |                          |
| 2009 Board Approved                                         | 793.1           |                 |                   | 43,841                           |            |                          |
| 2004 Actual                                                 | 797.9           |                 |                   | 41,830                           |            |                          |
| 2005 Actual                                                 | 827.0           | 29              | 3.6%              | 42,208                           | 378        | 0.9%                     |
| 2006 Actual                                                 | 815.3           | (12)            | (1.4%)            | 42,890                           | 683        | 1.6%                     |
| 2007 Actual                                                 | 816.7           | 1               | 0.2%              | 43,174                           | 283        | 0.7%                     |
| 2008 Actual                                                 | 819.7           | 3               | 0.4%              | 43,235                           | 62         | 0.1%                     |
| 2009 Actual                                                 | 795.3           | (24)            | (3.0%)            | 43,319                           | 84         | 0.2%                     |
| 2010 Actual                                                 | 800.0           | 5               | 0.6%              | 43,634                           | 315        | 0.7%                     |
| 2011 Actual                                                 | 818.5           | 19              | 2.3%              | 44,026                           | 392        | 0.9%                     |
| <b>2012 Bridge</b>                                          | <b>819.7</b>    | <b>1</b>        | <b>0.1%</b>       | <b>44,306</b>                    | <b>281</b> | <b>0.6%</b>              |
| <b>2013 Test</b>                                            | <b>818.8</b>    | <b>(1)</b>      | <b>(0.1%)</b>     | <b>44,592</b>                    | <b>286</b> | <b>0.6%</b>              |

The information in the table above provides weather actual data from 2004 to 2011, while 2012 and 2013 are weather normalized. PDI does not have a process to properly adjust weather actual data to a weather normal basis. However, based on the process outlined in this Exhibit, a process to forecast energy on a weather normalized basis has been developed and used in this Application.

Total Customers and Connections are on an annual average basis and streetlight, sentinel lights and unmetered loads are measured as connections.

Actual and forecasted billed amounts and numbers of customers are shown in Table 3-8 and customer usage is shown in Table 3-9, on a rate class basis.

**Table 3-8 Billed Energy and Number of Customer/Connections by Rate Class**

| Year                                   | Residential   | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User  | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads | Total         |
|----------------------------------------|---------------|----------------------------|----------------------------|-------------|-----------------|-------------------|---------------------------|---------------|
| <b>Billed Energy (GWh)</b>             |               |                            |                            |             |                 |                   |                           |               |
| 2009 Board Approved                    | 301.5         | 121.4                      | 297.6                      | 63.7        | 6.3             | 0.7               | 1.9                       | 793.1         |
| 2004 Actual                            | 285.7         | 121.8                      | 320.0                      | 63.3        | 6.0             | 1.0               | 0.0                       | 797.9         |
| 2005 Actual                            | 296.4         | 126.3                      | 330.7                      | 66.5        | 6.0             | 1.0               | 0.0                       | 827.0         |
| 2006 Actual                            | 290.2         | 124.4                      | 327.0                      | 65.1        | 6.3             | 1.1               | 1.2                       | 815.3         |
| 2007 Actual                            | 285.4         | 124.7                      | 333.1                      | 63.5        | 6.6             | 1.3               | 2.2                       | 816.7         |
| 2008 Actual                            | 288.2         | 121.6                      | 339.0                      | 63.3        | 5.6             | 0.6               | 1.4                       | 819.7         |
| 2009 Actual                            | 284.5         | 117.2                      | 327.2                      | 58.5        | 5.5             | 0.8               | 1.6                       | 795.3         |
| 2010 Actual                            | 287.7         | 117.5                      | 331.3                      | 55.5        | 5.6             | 0.8               | 1.6                       | 800.0         |
| 2011 Actual                            | 293.5         | 114.7                      | 345.5                      | 56.7        | 5.6             | 0.8               | 1.7                       | 818.5         |
| <b>2012 Bridge</b>                     | <b>294.3</b>  | <b>113.6</b>               | <b>348.6</b>               | <b>55.3</b> | <b>5.5</b>      | <b>0.7</b>        | <b>1.6</b>                | <b>819.7</b>  |
| <b>2013 Test</b>                       | <b>294.2</b>  | <b>112.2</b>               | <b>350.7</b>               | <b>53.9</b> | <b>5.4</b>      | <b>0.7</b>        | <b>1.6</b>                | <b>818.8</b>  |
| <b>Number of Customers/Connections</b> |               |                            |                            |             |                 |                   |                           |               |
| 2009 Board Approved                    | 30,883        | 3,638                      | 368                        | 2           | 8,540           | 401               | 9                         | 43,841        |
| 2004 Actual                            | 29,047        | 3,650                      | 384                        | 2           | 8,065           | 681               | 0                         | 41,830        |
| 2005 Actual                            | 29,322        | 3,642                      | 385                        | 2           | 8,182           | 675               | 0                         | 42,208        |
| 2006 Actual                            | 29,576        | 3,612                      | 377                        | 2           | 8,255           | 685               | 383                       | 42,890        |
| 2007 Actual                            | 29,947        | 3,618                      | 375                        | 2           | 8,284           | 565               | 383                       | 43,174        |
| 2008 Actual                            | 30,249        | 3,633                      | 369                        | 2           | 8,148           | 451               | 383                       | 43,235        |
| 2009 Actual                            | 30,524        | 3,619                      | 363                        | 2           | 8,002           | 425               | 383                       | 43,319        |
| 2010 Actual                            | 30,791        | 3,600                      | 372                        | 2           | 8,064           | 423               | 383                       | 43,634        |
| 2011 Actual                            | 31,135        | 3,570                      | 389                        | 2           | 8,131           | 416               | 384                       | 44,026        |
| <b>2012 Bridge</b>                     | <b>31,445</b> | <b>3,558</b>               | <b>389</b>                 | <b>2</b>    | <b>8,140</b>    | <b>387</b>        | <b>384</b>                | <b>44,306</b> |
| <b>2013 Test</b>                       | <b>31,758</b> | <b>3,547</b>               | <b>390</b>                 | <b>2</b>    | <b>8,150</b>    | <b>361</b>        | <b>384</b>                | <b>44,592</b> |

1 Table 3-9 Annual Usage per Customer/Connection by Rate Class

| Year                                                                      | Residential   | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User        | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads |
|---------------------------------------------------------------------------|---------------|----------------------------|----------------------------|-------------------|-----------------|-------------------|---------------------------|
| <b>Energy Usage per Customer/Connection (kWh per customer/connection)</b> |               |                            |                            |                   |                 |                   |                           |
| 2009 Board Approved                                                       | 9,763         | 33,374                     | 808,761                    | 31,849,531        | 733             | 1,644             | 212,154                   |
| 2004 Actual                                                               | 9,837         | 33,370                     | 833,067                    | 31,655,809        | 742             | 1,485             |                           |
| 2005 Actual                                                               | 10,110        | 34,680                     | 860,191                    | 33,260,358        | 732             | 1,433             |                           |
| 2006 Actual                                                               | 9,811         | 34,430                     | 866,489                    | 32,550,079        | 761             | 1,595             | 3,185                     |
| 2007 Actual                                                               | 9,530         | 34,460                     | 887,786                    | 31,725,050        | 795             | 2,316             | 5,775                     |
| 2008 Actual                                                               | 9,527         | 33,465                     | 917,661                    | 31,640,233        | 692             | 1,405             | 3,724                     |
| 2009 Actual                                                               | 9,319         | 32,386                     | 901,293                    | 29,259,009        | 692             | 1,873             | 4,182                     |
| 2010 Actual                                                               | 9,344         | 32,644                     | 890,581                    | 27,764,571        | 692             | 1,867             | 4,087                     |
| 2011 Actual                                                               | 9,428         | 32,135                     | 888,858                    | 28,330,940        | 690             | 1,850             | 4,326                     |
| <b>2012 Bridge</b>                                                        | <b>9,360</b>  | <b>31,926</b>              | <b>895,135</b>             | <b>27,631,258</b> | <b>677</b>      | <b>1,891</b>      | <b>4,287</b>              |
| <b>2013 Test</b>                                                          | <b>9,265</b>  | <b>31,622</b>              | <b>899,110</b>             | <b>26,948,431</b> | <b>664</b>      | <b>1,934</b>      | <b>4,248</b>              |
| <b>Annual Growth Rate in Usage per Customer/Connection</b>                |               |                            |                            |                   |                 |                   |                           |
| 2009 Board App. Vs. 2009 Actual                                           | 4.8%          | 3.1%                       | (10.3%)                    | 8.9%              | 5.9%            | (12.2%)           | 4972.7%                   |
| 2004 Actual                                                               |               |                            |                            |                   |                 |                   |                           |
| 2005 Actual                                                               | 2.8%          | 3.9%                       | 3.3%                       | 5.1%              | (1.3%)          | (3.5%)            |                           |
| 2006 Actual                                                               | (3.0%)        | (0.7%)                     | 0.7%                       | (2.1%)            | 4.0%            | 11.3%             |                           |
| 2007 Actual                                                               | (2.9%)        | 0.1%                       | 2.5%                       | (2.5%)            | 4.5%            | 45.2%             | 81.3%                     |
| 2008 Actual                                                               | (0.0%)        | (2.9%)                     | 3.4%                       | (0.3%)            | (13.0%)         | (39.4%)           | (35.5%)                   |
| 2009 Actual                                                               | (2.2%)        | (3.2%)                     | (1.8%)                     | (7.5%)            | 0.0%            | 33.4%             | 12.3%                     |
| 2010 Actual                                                               | 0.3%          | 0.8%                       | (1.2%)                     | (5.1%)            | (0.0%)          | (0.4%)            | (2.3%)                    |
| 2011 Actual                                                               | 0.9%          | (1.6%)                     | (0.2%)                     | 2.0%              | (0.2%)          | (0.9%)            | 5.8%                      |
| <b>2012 Bridge</b>                                                        | <b>(0.7%)</b> | <b>(0.7%)</b>              | <b>0.7%</b>                | <b>(2.5%)</b>     | <b>(1.9%)</b>   | <b>2.2%</b>       | <b>(0.9%)</b>             |
| <b>2013 Test</b>                                                          | <b>(1.0%)</b> | <b>(1.0%)</b>              | <b>0.4%</b>                | <b>(2.5%)</b>     | <b>(1.9%)</b>   | <b>2.2%</b>       | <b>(0.9%)</b>             |

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## **LOAD FORECAST AND METHODOLOGY**

PDI's weather normalized load forecast is developed in a three-step process. First, a total system weather normalized purchased energy forecast is developed based on a multifactor regression model that incorporates independent variables that impact the monthly historical load pattern for PDI. Second, the weather normalized purchased energy forecast is adjusted by a historical loss factor to produce a weather normalized billed energy forecast. Next, the forecast of billed energy by rate class is developed based on a forecast of customer numbers and historical usage patterns per customer. For the rate classes that have weather sensitive load, their forecasted billed energy is adjusted to ensure that the total billed energy forecast by rate class is equivalent to the total weather normalized billed energy forecast that has been determined from the regression model. The forecast of customers by rate class is determined using a geometric mean analysis. For those rate classes that use kW for the distribution volumetric billing determinant, an adjustment factor is applied to the class energy forecast based on the historical relationship between kW and kWh.

A detailed explanation of the load forecasting process follows.

### **Purchased KWh Load Forecast**

An equation to predict total system purchased energy is developed using a multifactor regression model with the following independent variables: weather (heating and cooling degree days); Ontario real GDP; number of days in the month; spring/fall seasonal "flag and the number of peak hours in the month. The regression model uses monthly kWh and monthly values of independent variables from January 2004 to December 2011 to determine a prediction formula with coefficients for each independent variable. This provides 96 monthly data points that represent a reasonable data set for use in a regression analysis. Consistent with the approach used by many other distributors in their cost of service applications, PDI submits that it is appropriate to review the impact of weather over the period January 2004 to December 2011 and then determine the average weather conditions over this eight year period which would be applied in the prediction formula to determine a weather normalized forecast. However, in accordance with the OEB's Filing Requirements, PDI has also provided a sensitivity analysis

showing the impact on the 2013 forecast of purchases assuming weather normal conditions are based on a 10 year average and on a 20-year trend of weather data.

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 (i.e. a measure of coldness in winter) and Cooling Degree Days (i.e. a measure of summer heat) are modeled.

The following outlines the prediction model used by PDI to predict weather normal purchases for 2012 and 2013:

PDI's Monthly Predicted kWh Purchases

= Heating Degree Days \* 24,566  
+ Cooling Degree Days \* 103,832  
+ Ontario Real GDP Monthly \* 222,217  
+ Number of Days in the Month \* 1,393,909  
+ Spring Fall Flag \* (3,604,736)  
+ Number of Peak Hours \* 69,209  
+ Intercept of (23,705,164)

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

The sources of data for the various data points are:

a) Environment Canada website for monthly heating degree day and cooling degree information. For 2004, data from the Peterborough A weather stations was used and from 2004 onward data from the Peterborough Trent University weather station was used. Data from the Peterborough A weather station was not available after 2004 and data at the Peterborough Trent University weather station was not available before 2005;

b) The calendar provided information related to number of days in the month, the number of peak hours and the months defined to be spring or fall (i.e. March to May and September to November)

c) For 2004 to 2006 the source of data for the Ontario Real GDP information was the 2003 and 2008 Ontario Economic Outlook and Fiscal Review, Ontario Ministry of Finance. For 2007 and 2008, the source was the 2010 Ontario Economic Outlook and Fiscal Review - 2010 Fall Update. For 2009 to 2013, the 2011 Ontario Economic Outlook and Fiscal Review - 2011 Fall Update provided the Ontario Real GDP for those years.

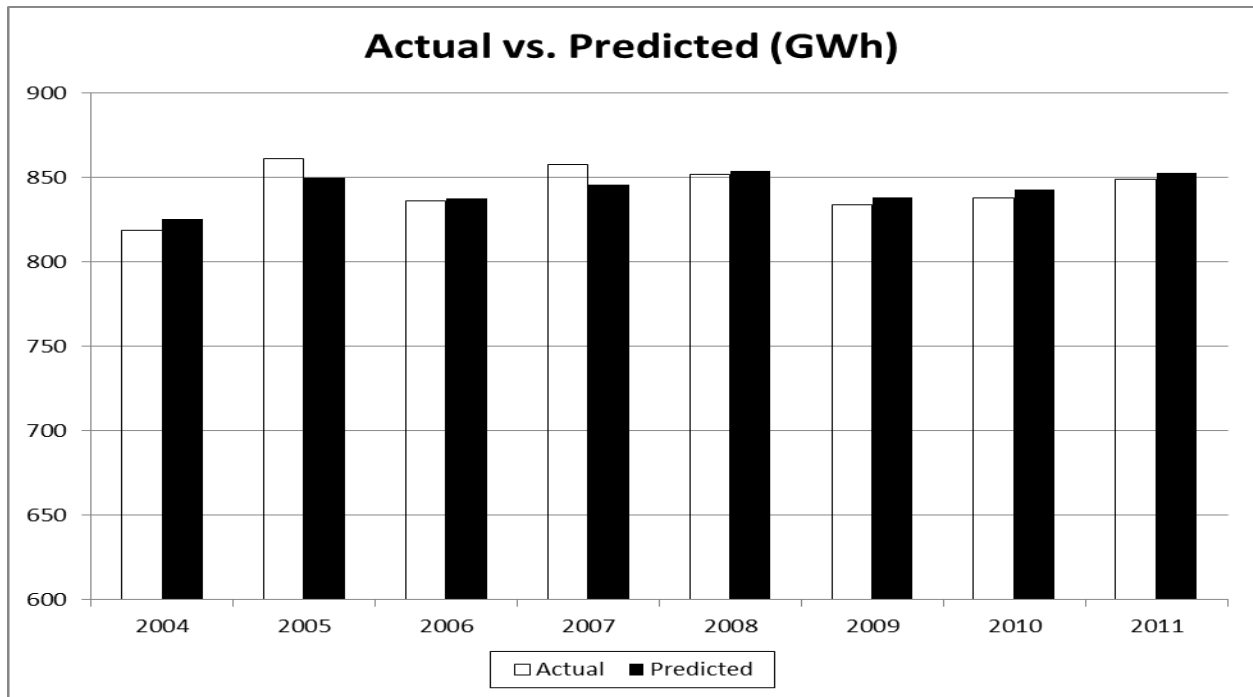
The resulting prediction formula has the following statistical results:

**Table 3-10 Statistical Results**

| <b>Statistic</b>           | <b>Value</b> |
|----------------------------|--------------|
| R Square                   | 92%          |
| Adjusted R Square          | 92%          |
| F Test                     | 180.3        |
| T-stats by Coefficient     |              |
| Heating Degree Days        | 24.9         |
| Cooling Degree Days        | 9.8          |
| Ontario Real GDP Monthly % | 3.9          |
| Number of Days in Month    | 5.2          |
| Spring Fall Flag           | (7.2)        |
| Number of Peak Hours       | 3.1          |
| Intercept                  | (2.2)        |

The annual results of the above prediction formula compared to the actual annual purchases from 2004 to 2011 are shown in the chart below. The chart indicates the resulting prediction equation appears to be reasonable.

1 **Chart 3-1 Actual vs Predicted Growth (GWh)**



2

3 The following table outlines the data that supports the above chart. In addition, the predicted

4 total system purchases for PDI are provided for 2012 and 2013. For 2012 and 2013 the system

5 purchases reflect a weather normalized forecast for the full year. In addition, values for 2013 are

6 provided on 10 year average and a 20 year trend assumption for weather normalization.

7

**Table 3-11 Total System Purchases**

| Year                                         | Actual | Predicted    | % Difference |
|----------------------------------------------|--------|--------------|--------------|
| <b>Purchased Energy (GWh)</b>                |        |              |              |
| 2004                                         | 818.5  | 825.3        | 0.8%         |
| 2005                                         | 860.9  | 850.0        | (1.3%)       |
| 2006                                         | 836.0  | 837.5        | 0.2%         |
| 2007                                         | 857.7  | 845.5        | (1.4%)       |
| 2008                                         | 852.0  | 853.9        | 0.2%         |
| 2009                                         | 834.0  | 838.3        | 0.5%         |
| 2010                                         | 838.0  | 842.9        | 0.6%         |
| 2011                                         | 848.8  | 852.6        | 0.4%         |
| <b>2012 Weather Normal</b>                   |        | <b>859.7</b> |              |
| <b>2013 Weather Normal</b>                   |        | <b>866.6</b> |              |
| <b>2013 Weather Normal - 10 year average</b> |        | <b>867.6</b> |              |
| <b>2013 Weather Normal - 20 year trend</b>   |        | <b>865.3</b> |              |

The weather normalized amount for 2013 is determined by using 2013 dependent variables in the prediction formula on a monthly basis together with the average monthly heating degree days and cooling degree days that occurred from January 2004 to December 2011 (i.e. eight years). The 2013 weather normalized 10 year average amount reflects the average monthly heating degree days and cooling degree days that occurred from January 2002 to December 2011. The 20 year trend value is based on the trend in monthly heating degree days and cooling degree days that occurred from January 1992 to December 2011.

The weather normal eight year average has been used to determine the power purchased forecast in this Application for the purposes of determining a billed kWh load forecast which is used to design rates. The eight year average has been used as this is consistent with the period of time over which the regression analysis was conducted

#### **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. This adjustment has been made by PDI using the average loss factor from 2004 to 2011 of 1.0394. With this average loss

factor the total weather normalized billed energy will be 827.1 GWh for 2012 (i.e.  $859.7/1.0394$ ) and 833.7 GWh for 2013 (i.e.  $866.6/1.0394$ ) before adjustments for 2012 and 2013 CDM programs.

#### **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 customer/connection forecast is based on reviewing historical customer/connection data that is available as shown in the following table.

**Table 3-12 Historical Customer/Connection Data**

| Year                                   | Residential | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads | Total  |
|----------------------------------------|-------------|----------------------------|----------------------------|------------|-----------------|-------------------|---------------------------|--------|
| <b>Number of Customers/Connections</b> |             |                            |                            |            |                 |                   |                           |        |
| 2004                                   | 29,047      | 3,650                      | 384                        | 2          | 8,065           | 681               | 0                         | 41,830 |
| 2005                                   | 29,322      | 3,642                      | 385                        | 2          | 8,182           | 675               | 0                         | 42,208 |
| 2006                                   | 29,576      | 3,612                      | 377                        | 2          | 8,255           | 685               | 383                       | 42,890 |
| 2007                                   | 29,947      | 3,618                      | 375                        | 2          | 8,284           | 565               | 383                       | 43,174 |
| 2008                                   | 30,249      | 3,633                      | 369                        | 2          | 8,148           | 451               | 383                       | 43,235 |
| 2009                                   | 30,524      | 3,619                      | 363                        | 2          | 8,002           | 425               | 383                       | 43,319 |
| 2010                                   | 30,791      | 3,600                      | 372                        | 2          | 8,064           | 423               | 383                       | 43,634 |
| 2011                                   | 31,135      | 3,570                      | 389                        | 2          | 8,131           | 416               | 384                       | 44,026 |

From the historical customer/connection data the growth rates in customers/ connections can be evaluated. The growth rates are provided in the following table. The geometric mean growth rate in number of customers is also provided. The geometric mean approach provides the average compounding growth rate from 2004 to 2011.

1 **Table 3-13 Growth Rate in Customer/Connections**

| Year                                        | Residential | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User  | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads |
|---------------------------------------------|-------------|----------------------------|----------------------------|-------------|-----------------|-------------------|---------------------------|
| <b>Growth Rate in Customers/Connections</b> |             |                            |                            |             |                 |                   |                           |
| 2004                                        |             |                            |                            |             |                 |                   |                           |
| 2005                                        | 0.9%        | (0.2%)                     | 0.1%                       | 0.0%        | 1.5%            | (0.9%)            |                           |
| 2006                                        | 0.9%        | (0.8%)                     | (1.8%)                     | 0.0%        | 0.9%            | 1.5%              |                           |
| 2007                                        | 1.3%        | 0.2%                       | (0.6%)                     | 0.0%        | 0.3%            | (17.6%)           | 0.0%                      |
| 2008                                        | 1.0%        | 0.4%                       | (1.5%)                     | 0.0%        | (1.6%)          | (20.2%)           | 0.0%                      |
| 2009                                        | 0.9%        | (0.4%)                     | (1.7%)                     | 0.0%        | (1.8%)          | (5.7%)            | 0.0%                      |
| 2010                                        | 0.9%        | (0.5%)                     | 2.5%                       | 0.0%        | 0.8%            | (0.6%)            | 0.0%                      |
| 2011                                        | 1.1%        | (0.8%)                     | 4.5%                       | 0.0%        | 0.8%            | (1.7%)            | 0.2%                      |
| <b>Geometric Mean</b>                       | <b>1.0%</b> | <b>(0.3%)</b>              | <b>0.2%</b>                | <b>0.0%</b> | <b>0.1%</b>     | <b>(6.8%)</b>     | <b>0.1%</b>               |

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4 The resulting geometric mean was first applied to the 2011 customer/connection numbers to  
5 determine the forecast of customer/connections in 2012. Then the geometric mean was applied  
6 again to the 2012 value to determine the 2013 customer/connection forecast.

7 **Table 3-14 Customer/Connection Forecast**

| Year                                            | Residential | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads | Total  |
|-------------------------------------------------|-------------|----------------------------|----------------------------|------------|-----------------|-------------------|---------------------------|--------|
| <b>Forecast Number of Customers/Connections</b> |             |                            |                            |            |                 |                   |                           |        |
| 2012                                            | 31,445      | 3,558                      | 389                        | 2          | 8,140           | 387               | 384                       | 44,306 |
| 2013                                            | 31,758      | 3,547                      | 390                        | 2          | 8,150           | 361               | 384                       | 44,592 |

8

9 The next step in the process is to review the historical customer/connection usage and to reflect  
10 this usage per customer in the forecast. The following table provides the average annual usage  
11 per customer by rate class from 2004 to 2011.

12

1 **Table 3-15 Historical Annual Usage per Customer**

| Year                                            | Residential | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads |
|-------------------------------------------------|-------------|----------------------------|----------------------------|------------|-----------------|-------------------|---------------------------|
| <b>Annual kWh Usage Per Customer/Connection</b> |             |                            |                            |            |                 |                   |                           |
| 2004                                            | 9,837       | 33,370                     | 833,067                    | 31,655,809 | 742             | 1,485             | 0                         |
| 2005                                            | 10,110      | 34,680                     | 860,191                    | 33,260,358 | 732             | 1,433             | 0                         |
| 2006                                            | 9,811       | 34,430                     | 866,489                    | 32,550,079 | 761             | 1,595             | 3,185                     |
| 2007                                            | 9,530       | 34,460                     | 887,786                    | 31,725,050 | 795             | 2,316             | 5,775                     |
| 2008                                            | 9,527       | 33,465                     | 917,661                    | 31,640,233 | 692             | 1,405             | 3,724                     |
| 2009                                            | 9,319       | 32,386                     | 901,293                    | 29,259,009 | 692             | 1,873             | 4,182                     |
| 2010                                            | 9,344       | 32,644                     | 890,581                    | 27,764,571 | 692             | 1,867             | 4,087                     |
| 2011                                            | 9,428       | 32,135                     | 888,858                    | 28,330,940 | 690             | 1,850             | 4,326                     |

2  
3 From the historical usage per customer/connection data the growth rate in usage per  
4 customer/connection can be reviewed. That information is provided in the following table. The  
5 geometric mean growth rate has also been shown.

6 **Table 3-16 Growth Rate in Usage Customer/Connection**

| Year                                      | Residential   | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User    | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads |
|-------------------------------------------|---------------|----------------------------|----------------------------|---------------|-----------------|-------------------|---------------------------|
| <b>Growth Rate in Customer/Connection</b> |               |                            |                            |               |                 |                   |                           |
| 2004                                      |               |                            |                            |               |                 |                   |                           |
| 2005                                      | 2.8%          | 3.9%                       | 3.3%                       | 5.1%          | (1.3%)          | (3.5%)            |                           |
| 2006                                      | (3.0%)        | (0.7%)                     | 0.7%                       | (2.1%)        | 4.0%            | 11.3%             |                           |
| 2007                                      | (2.9%)        | 0.1%                       | 2.5%                       | (2.5%)        | 4.5%            | 45.2%             | 81.3%                     |
| 2008                                      | (0.0%)        | (2.9%)                     | 3.4%                       | (0.3%)        | (13.0%)         | (39.4%)           | (35.5%)                   |
| 2009                                      | (2.2%)        | (3.2%)                     | (1.8%)                     | (7.5%)        | 0.0%            | 33.4%             | 12.3%                     |
| 2010                                      | 0.3%          | 0.8%                       | (1.2%)                     | (5.1%)        | (0.0%)          | (0.4%)            | (2.3%)                    |
| 2011                                      | 0.9%          | (1.6%)                     | (0.2%)                     | 2.0%          | (0.2%)          | (0.9%)            | 5.8%                      |
| <b>Geometric Mean</b>                     | <b>(0.6%)</b> | <b>(0.5%)</b>              | <b>0.9%</b>                | <b>(1.6%)</b> | <b>(1.0%)</b>   | <b>3.2%</b>       | <b>6.3%</b>               |

7  
8 Except for the Unmetered Scattered Loads class, the forecast of usage per customer/connection is  
9 the historical geometric mean applied to the 2011 usage to determine the 2012 forecast. The  
10 geometric mean is applied again to the 2012 value to determine the 2013 forecast. For the  
11 Unmetered Scattered Loads class the 2011 usage per connection was maintain since PDI does  
12 not expect the usage per connection for this rate class to increase. The resulting usage forecast  
13 per rate class is as follows:

**Table 3-17 Forecast Annual kWh Usage per Customer/Connection**

| Year                                                      | Residential | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads |
|-----------------------------------------------------------|-------------|----------------------------|----------------------------|------------|-----------------|-------------------|---------------------------|
| <b>Forecast Annual kWh Usage per Customers/Connection</b> |             |                            |                            |            |                 |                   |                           |
| 2012                                                      | 9,371       | 31,962                     | 897,127                    | 27,885,366 | 683             | 1,909             | 4,326                     |
| 2013                                                      | 9,314       | 31,791                     | 905,473                    | 27,446,800 | 677             | 1,969             | 4,326                     |

With the preceding information the non-normalized weather billed energy forecast can be determined by applying the forecast numbers of customers/connections from Table 3-14 by the forecast of annual usage per customer/connection from Table 3-17. The resulting non-normalized weather billed energy forecast is shown in the following table.

**Table 3-18 Non-normalized Weather Billed Energy Forecast**

| Year                                                       | Residential | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads | Total |
|------------------------------------------------------------|-------------|----------------------------|----------------------------|------------|-----------------|-------------------|---------------------------|-------|
| <b>NON-normalized Weather Billed Energy Forecast (GWh)</b> |             |                            |                            |            |                 |                   |                           |       |
| 2012 (Not Normalized)                                      | 294.7       | 113.7                      | 349.3                      | 55.8       | 5.6             | 0.7               | 1.7                       | 821.5 |
| 2013 (Not Normalized)                                      | 295.8       | 112.8                      | 353.2                      | 54.9       | 5.5             | 0.7               | 1.7                       | 824.5 |

The non-normalized weather billed energy forecast has been determined but this needs to be adjusted in order to be aligned with the total weather normalized billed energy forecast. As previously determined, the total weather normalized billed energy forecast is 827.1 GWh for 2012 and 833.7 GWh for 2013 before adjustments for 2012 and 2013 CDM programs.

The difference between the non-normalized and normalized forecast adjustments is 5.7 GWh in 2012 (i.e. 827.1 – 821.5) and 9.2 GWh in 2013 (i.e. 833.7 – 824.5). The difference is 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. Based on the weather normalization work completed by Hydro One for PDI for the cost allocation study, which has been used to support this Application, it was determined that the weather sensitivity by rate classes is as follows:

1 **Table 3-19 Weather Sensitivity by Rate Class**

| Residential                | General Service < 50 kW | General Service > 50 kW | Large User | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads |
|----------------------------|-------------------------|-------------------------|------------|-----------------|-------------------|---------------------------|
| <b>Weather Sensitivity</b> |                         |                         |            |                 |                   |                           |
| 88.1%                      | 88.1%                   | 76.3%                   | 0.0%       | 0.0%            | 0.0%              | 0.0%                      |

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4 For the General Service > 50 kW class the weather sensitivity amount of 76.3% was provided in  
5 the weather normalization work completed by Hydro One. For the Residential and General  
6 Service < 50 kW classes, it is has been assumed in previous cost of service applications that  
7 these two classes are 100% weather sensitive. Intervenor expressed concern with this  
8 assumption and have suggested that 100% weather sensitivity is not appropriate. PDI agrees  
9 with this position but also submits that the weather sensitivity for the Residential and GS < 50  
10 kW classes should be higher than the GS > 50 kW class. As a result, PDI has assumed the  
11 weather sensitivity for the Residential and General Service < 50 kW classes to be mid-way  
12 between 100% and 76.3%, or 88.1%.

13 The difference between the non-normalized and normalized forecast of 5.7 GWh in 2012 and 9.2  
14 GWh in 2013 has been assigned on a *pro rata* basis to each rate class based on the above level of  
15 weather sensitivity.

16 In addition a manual adjustment has been made to reflect the impact of 2012 and 2013 CDM  
17 programs on the load forecast. This adjustment reflects the “gross” impact of 2012 and 2013  
18 CDM programs on the load forecast. The gross impact includes the net results measured by the  
19 OPA plus an estimate of the average net to gross adjustment reflecting gross and net savings  
20 information provided in the OPA 2006-2010 Final CDM Results. The net results provide a  
21 measurement of the program effectiveness used to achieve the LDC targets. The gross results  
22 include the net results plus the estimated impact of customers participating in a program even if  
23 an incentive was not provided to participate. In the past this has been termed the level of “free  
24 ridership”. In other words, the gross results include the results from those who participated in the

program because there was an incentive plus those who participated even if there was not an incentive. In PDI's view it is the gross level that impacts the load forecast.

The following table outlines the average net to gross factor of 59.4% based on information provided in the OPA 2006-2010 Final CDM Results for PDI

**Table 3-20 Average Net to Gross Percentage**

| Year  | OPA 2006-2010 Final CDM Results (Gross) | OPA 2006-2010 Final CDM Results (Net) | # Difference | % Difference of Net |
|-------|-----------------------------------------|---------------------------------------|--------------|---------------------|
| 2006  | 3,041,820                               | 2,723,684                             | 318,136      | 11.7%               |
| 2007  | 9,963,011                               | 4,916,914                             | 5,046,097    | 102.6%              |
| 2008  | 10,375,832                              | 6,715,313                             | 3,660,519    | 54.5%               |
| 2009  | 18,969,006                              | 12,781,165                            | 6,187,841    | 48.4%               |
| 2010  | 24,045,441                              | 15,159,043                            | 8,886,398    | 58.6%               |
| 2011  | 23,097,070                              | 14,195,309                            | 8,901,760    | 62.7%               |
| 2012  | 22,601,517                              | 13,984,073                            | 8,617,445    | 61.6%               |
| 2013  | 22,466,505                              | 13,915,351                            | 8,551,154    | 61.5%               |
| Total | 134,560,201                             | 84,390,851                            | 50,169,350   | 59.4%               |

PDI currently has available final actual results from 2011 programs that contribute to the four year licensed CDM kWh targets of 38,450,000 assigned to PDI. The 2011 final results are based on information provided to PDI from the OPA on August 31, 2012. The 2011 results impacts on the level of savings needed from 2012 to 2014 programs in order to achieve the licensed 4 year CDM target. Based on the following table the 2011 actual savings will contribute 26.7% to the four year target. The table indicates that assuming persistence, 2012 to 2014 programs will need to achieve 12.2% of the four year target each year in order to achieve the target.

1 **Table 3-21 Schedule to Achieve 4-Year kWh CDM Target**

| 4 Year 2011 to 2014 kWh target |           |           |            |            |            |
|--------------------------------|-----------|-----------|------------|------------|------------|
| 38,450,000                     |           |           |            |            |            |
|                                | 2011      | 2012      | 2013       | 2014       | Total      |
| 2011 Programs                  | 6.7%      | 6.7%      | 6.7%       | 6.6%       | 26.7%      |
| 2012 Programs                  |           | 12.2%     | 12.2%      | 12.2%      | 36.6%      |
| 2013 Programs                  |           |           | 12.2%      | 12.2%      | 24.4%      |
| 2014 Programs                  |           |           |            | 12.2%      | 12.2%      |
|                                | 6.7%      | 18.9%     | 31.1%      | 43.3%      | 100.0%     |
| kWh                            |           |           |            |            |            |
| 2011 Programs                  | 2,577,808 | 2,577,808 | 2,577,438  | 2,547,967  | 10,281,020 |
| 2012 Programs                  |           | 4,694,830 | 4,694,830  | 4,694,830  | 14,084,490 |
| 2013 Programs                  |           |           | 4,694,830  | 4,694,830  | 9,389,660  |
| 2014 Programs                  |           |           |            | 4,694,830  | 4,694,830  |
|                                | 2,577,808 | 7,272,638 | 11,967,098 | 16,632,457 | 38,450,000 |

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4 The above table suggests that in 2012, the savings from 2012 programs will be 4,694,830 kWh  
5 on a net basis. However on a gross basis this amount would be 4,694,830 times 1.594 (i.e. the net  
6 to gross factor determined in table 3-20) or 7,485,850 kWh. In PDI's view, the 2012 load  
7 forecast should be adjusted by 7,485,850 kWh to reflect CDM savings from 2012 programs.

8 The above table also suggest that in 2013, the savings from 2012 and 2013 programs will be a  
9 4,694,830 kWh times two or 9,389,660 kWh on a net basis. However on a gross basis this  
10 amount would be 9,389,660 times 1.594 (i.e. the net to gross factor determined in table 3-21) or  
11 14,971,700 kWh. In PDI's view, the 2013 load forecast should be adjusted by 14,971,700 kWh  
12 to reflect CDM savings from 2012 and 2013 programs.

13 In accordance with the Board's Guidelines for Electricity Distributor Conservation and Demand  
14 Management [EB-2012-0003], issued April 26, 2012, it is PDI's understanding that as part of  
15 this application expected CDM savings in 2013 from 2011, 2012 and 2013 programs will need to  
16 be established for LRAM variance accounts purposes. PDI understands that the OPA will  
17 measure CDM results attributable to the four year targets on a net basis. Consistent with past  
18 practices, it is expected the net level of savings will be used for LRAM calculations. As a result,

it is PDI's view that the units used for the 2013 LRAM variance account should also be on a net basis. Based on the net information in table 3-21, PDI expects to achieve 11,967,098 net kWh savings in 2013 from 2011 to 2013 CDM programs. For LRAM variance account purposes, the following table outlines how this expected savings has been allocated to rate class using the 2013 information from table 3-18. The expected kW saving has also been provided for those classes billed distribution charges on a kW basis using the average kW/KWh factors from Table 3-25.

**Table 3-22 2013 Expected Savings for LRAM Variance Account**

|                     | Residential | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads | Total      |
|---------------------|-------------|----------------------------|----------------------------|------------|-----------------|-------------------|---------------------------|------------|
| kWh                 | 4,293,238   | 1,636,493                  | 5,126,186                  | 796,706    | 80,025          | 10,314            | 24,135                    | 11,967,098 |
| kW where applicable |             |                            | 12,600                     | 1,679      | 220             | 29                |                           | 14,528     |

The following table outlines how the classes have been adjusted to align the non-normalized forecast with the normalized forecast and reflect the adjustments discussed above.

**Table 3-23 Alignment of Non-normal to Weather Normal Forecast**

| Year                                                       | Residential | General Service<br>< 50 kW | General Service<br>> 50 kW | Large User | Street Lighting | Sentinel Lighting | Unmetered Scattered Loads | Total  |
|------------------------------------------------------------|-------------|----------------------------|----------------------------|------------|-----------------|-------------------|---------------------------|--------|
| <b>Non-normalized Weather Billed Energy Forecast (GWh)</b> |             |                            |                            |            |                 |                   |                           |        |
| 2012 Non-Normalized Bridge                                 | 294.7       | 113.7                      | 349.3                      | 55.8       | 5.6             | 0.7               | 1.7                       | 821.5  |
| 2013 Non-Normalized Test                                   | 295.8       | 112.8                      | 353.2                      | 54.9       | 5.5             | 0.7               | 1.7                       | 824.5  |
| <b>Weather Adjustment (GWh)</b>                            |             |                            |                            |            |                 |                   |                           |        |
| 2012                                                       | 2.3         | 0.9                        | 2.4                        | 0.0        | 0.0             | 0.0               | 0.0                       | 5.7    |
| 2013                                                       | 3.8         | 1.5                        | 3.9                        | 0.0        | 0.0             | 0.0               | 0.0                       | 9.2    |
| <b>CDM Adjustment (GWh)</b>                                |             |                            |                            |            |                 |                   |                           |        |
| 2012                                                       | (2.7)       | (1.0)                      | (3.2)                      | (0.5)      | (0.1)           | (0.0)             | (0.0)                     | (7.5)  |
| 2013                                                       | (5.4)       | (2.0)                      | (6.4)                      | (1.0)      | (0.1)           | (0.0)             | (0.0)                     | (15.0) |
| <b>Weather Normalized Billed Energy Forecast (GWh)</b>     |             |                            |                            |            |                 |                   |                           |        |
| 2012 Normalized Bridge                                     | 294.3       | 113.6                      | 348.6                      | 55.3       | 5.5             | 0.7               | 1.6                       | 819.7  |
| 2013 Normalized Test                                       | 294.2       | 112.2                      | 350.7                      | 53.9       | 5.4             | 0.7               | 1.6                       | 818.8  |

### Billed KW Load Forecast

There are four rate classes that charge volumetric distribution on per kW basis. As a result, the energy forecast for these classes needs to be converted to a kW basis for rate setting purposes.

1 The forecast of kW for these classes is based on a review of the historical ratio of kW to kWh  
2 and applying the average ratio to the forecasted kWh to produce the required kW.

3 The following table outlines the annual demand units by applicable rate class.

4 **Table 3-24 Historical Annual kW per Applicable Rate Class**

| Year                    | General<br>Service<br>> 50 kW | Large User | Street<br>Lighting | Sentinel<br>Lighting | Total   |
|-------------------------|-------------------------------|------------|--------------------|----------------------|---------|
| <b>Billed Annual kW</b> |                               |            |                    |                      |         |
| 2004                    | 786,950                       | 133,227    | 16,548             | 2,630                | 939,355 |
| 2005                    | 764,330                       | 136,079    | 16,365             | 2,721                | 919,495 |
| 2006                    | 805,126                       | 133,042    | 16,568             | 4,030                | 958,766 |
| 2007                    | 830,729                       | 128,681    | 13,932             | 2,574                | 975,916 |
| 2008                    | 842,747                       | 134,390    | 16,513             | 2,437                | 996,087 |
| 2009                    | 819,801                       | 126,985    | 16,284             | 1,916                | 964,986 |
| 2010                    | 825,019                       | 121,689    | 16,388             | 2,174                | 965,270 |
| 2011                    | 848,381                       | 121,779    | 16,448             | 2,129                | 988,737 |

5  
6 The following table illustrates the historical ratio of kW/kWh as well as the average ratio for  
7 2004 to 2011.

8 **Table 3-25 Historical kW/kWh Ratio per Applicable Rate Class**

9

10 The average ratio was applied to the weather normalized billed energy forecast in Table 3-23 to  
11 provide the forecast of kW by rate class as shown below. The following table outlines the  
12 forecast of kW for the applicable rate classes.

1 **Table 3-26 kW Forecast by Applicable Rate Class**

| Year                          | General<br>Service<br>> 50 kW | Large User     | Street<br>Lighting | Sentinel<br>Lighting | Total          |
|-------------------------------|-------------------------------|----------------|--------------------|----------------------|----------------|
| <b>Predicted Billed kW</b>    |                               |                |                    |                      |                |
| <b>2012 Normalized Bridge</b> | <b>856,760</b>                | <b>116,439</b> | <b>15,150</b>      | <b>2,092</b>         | <b>990,441</b> |
| <b>2013 Normalized Test</b>   | <b>862,025</b>                | <b>113,561</b> | <b>14,877</b>      | <b>1,993</b>         | <b>992,456</b> |

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3 Table 3-27 provides a summary of the billing determinants by rate class that is used to develop

4 the proposed rates.

1 Table 3-27 Summary of Forecast

|                                                | 2009 Board<br>Approved | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | 2012<br>Weather<br>Normalized<br>Bridge | 2013<br>Weather<br>Normalized<br>Test |
|------------------------------------------------|------------------------|----------------|----------------|----------------|-----------------------------------------|---------------------------------------|
| <b>ACTUAL AND PREDICTED KWH PURCHASES</b>      |                        |                |                |                |                                         |                                       |
| Actual kWh Purchases                           |                        | 834,049,383    | 838,046,263    | 848,819,242    |                                         |                                       |
| Predicted kWh Purchases                        |                        | 838,345,001    | 842,918,314    | 852,551,620    | 859,746,440                             | 866,587,550                           |
| % Difference of actual and predicted purchases |                        | 0.5%           | 0.6%           | 0.4%           |                                         |                                       |
| <b>BILLING DETERMINANTS BY CLASS</b>           |                        |                |                |                |                                         |                                       |
| Residential                                    |                        |                |                |                |                                         |                                       |
| Customers                                      | 30,883                 | 30,524         | 30,791         | 31,135         | 31,445                                  | 31,758                                |
| kWh                                            | 301,495,708            | 284,464,847    | 287,709,082    | 293,541,684    | 294,333,518                             | 294,240,107                           |
| General Service □ < 50 kW                      |                        |                |                |                |                                         |                                       |
| Customers                                      | 3,638                  | 3,619          | 3,600          | 3,570          | 3,558                                   | 3,547                                 |
| kWh                                            | 121,412,816            | 117,206,107    | 117,506,264    | 114,708,317    | 113,597,004                             | 112,158,205                           |
| General Service □ > 50 kW                      |                        |                |                |                |                                         |                                       |
| Customers                                      | 368                    | 363            | 372            | 389            | 389                                     | 390                                   |
| kWh                                            | 297,624,170            | 327,169,221    | 331,296,296    | 345,543,415    | 348,573,781                             | 350,715,605                           |
| kW                                             | 731,891                | 819,801        | 825,019        | 848,381        | 856,760                                 | 862,025                               |
| Large User                                     | 2                      | 2              | 2              | 2              | 2                                       | 2                                     |
| Customers                                      | 63,699,061             | 58,518,018     | 55,529,141     | 56,661,879     | 55,262,516                              | 53,896,862                            |
| kWh                                            | 128,427                | 126,985        | 121,689        | 121,779        | 116,439                                 | 113,561                               |
| kW                                             |                        |                |                |                |                                         |                                       |
| Sentinel Lighting                              |                        |                |                |                |                                         |                                       |
| Connections                                    | 401                    | 425            | 423            | 416            | 387                                     | 361                                   |
| kWh                                            | 659,151                | 796,438        | 788,608        | 768,502        | 732,275                                 | 697,744                               |
| kW                                             | 1,795                  | 1,916          | 2,174          | 2,129          | 2,092                                   | 1,993                                 |
| Street Lighting                                |                        |                |                |                |                                         |                                       |
| Connections                                    | 8,540                  | 8,002          | 8,064          | 8,131          | 8,140                                   | 8,150                                 |
| kWh                                            | 6,261,525              | 5,539,999      | 5,582,044      | 5,614,216      | 5,513,077                               | 5,413,675                             |
| kW                                             | 17,527                 | 16,284         | 16,388         | 16,448         | 15,150                                  | 14,877                                |
| Unmetered Scattered Loads                      |                        |                |                |                |                                         |                                       |
| Connections                                    | 9                      | 383            | 383            | 384            | 384                                     | 384                                   |
| kWh                                            | 1,909,385              | 1,601,817      | 1,565,650      | 1,661,205      | 1,646,926                               | 1,632,744                             |
| Customer/Connections                           | 43,841                 | 43,319         | 43,634         | 44,026         | 44,306                                  | 44,592                                |
| kWh                                            | 793,061,816            | 795,296,447    | 799,977,085    | 818,499,218    | 819,659,096                             | 818,754,942                           |
| kW from applicable classes                     | 879,640                | 964,986        | 965,270        | 988,737        | 990,441                                 | 992,456                               |

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**TRANSFORMER ALLOWANCE AND OTHER SERVICE CHARGES**

PDI currently provides a Transformer Ownership Allowance Credit of \$0.60/kW to those customers that own their own transformer facilities. PDI is proposing to maintain this rate for the 2013 Test Year for eligible customers.

PDI is not proposing any changes to any of its services charges, or proposing any new service charges.



## VARIANCE ANALYSIS ON OTHER DISTRIBUTION REVENUE

### 2009 Board Approved Comparison to 2009 Actual – Other Operating Revenue:

Other operating revenue was \$312,652 lower in 2009 compared to the Board Approved amount of \$1.6 million. Table 3-29 below summarizes the variance by account description. The main reason for the decrease in other revenue compared to the 2009 Board amount was lower than expected interest earned on Regulatory Assets. PDI utilized an interest rate of 4.0% when building its 2009 Board Approved Budget. The prescribed interest rates for 2009 ultimately ranged from 0.55% to 2.45%. Specific Service Charges appears higher by approximately \$67,000 due to the incorrect mapping of Miscellaneous Income including scrap income to OEB Account 4235. This should have been mapped to Account 4220 – Other Electric Revenue. This mapping has since been changed so that Other Electric Revenue will be recorded correctly in 2012 and forward. No amounts have been forecast for OEB 4220 in the 2012 bridge year or 2013 test year.

**Table 3-29 Comparison 2009 Actual to 2009 Board Approved**

| USoA #                               | USoA Description            | Board<br>Approved<br>2009 | 2009 Actual         | Difference<br>\$   | Difference<br>% |
|--------------------------------------|-----------------------------|---------------------------|---------------------|--------------------|-----------------|
| 4082                                 | Retail Services Revenues    | 30,000                    | 34,566              | 4,566              | 15%             |
| 4084                                 | STR Revenue                 | 20,000                    | 19,532              | (468)              | -2%             |
| 4086                                 | SSS Administration Revenue  | 88,000                    | 89,560              | 1,560              | 2%              |
| 4210                                 | Rent from Electric Property | 211,851                   | 216,325             | 4,474              | 2%              |
| 4225                                 | Late Payment Charges        | 190,000                   | 203,845             | 13,845             | 7%              |
| 4235                                 | Specific Service Charges    | 630,000                   | 731,535             | 101,535            | 16%             |
| 4405                                 | Interest & Dividend Income  | 449,000                   | 10,836              | (438,164)          | -98%            |
| <b>Total Other Operating Revenue</b> |                             | <b>\$ 1,618,851</b>       | <b>\$ 1,306,199</b> | <b>-\$ 312,652</b> | <b>-19%</b>     |

## 2010 Actual Comparison to 2009 Actual – Other Operating Revenue

Table 3-30 below summarizes the variance by account description. Interest income earned on regulatory assets increased in 2010 relative to 2009 on higher levels of regulatory assets due to the smart meter initiative.

**Table 3-30 Comparison 2010 Actual to 2009 Actual**

| USoA #                               | USoA Description            | 2009<br>Actual      | 2010<br>Actual      | Difference<br>\$ | Difference<br>% |
|--------------------------------------|-----------------------------|---------------------|---------------------|------------------|-----------------|
| 4082                                 | Retail Services Revenues    | 34,566              | 34,326              | (240)            | -1%             |
| 4084                                 | STR Revenue                 | 19,532              | 20,769              | 1,237            | 6%              |
| 4086                                 | SSS Administration Revenue  | 89,560              | 91,279              | 1,719            | 2%              |
| 4210                                 | Rent from Electric Property | 216,325             | 204,294             | (12,031)         | -6%             |
| 4225                                 | Late Payment Charges        | 203,845             | 203,072             | (773)            | 0%              |
| 4235                                 | Specific Service Charges    | 731,535             | 712,961             | (18,574)         | -3%             |
| 4405                                 | Interest & Dividend Income  | 10,836              | 82,940              | 72,104           | 665%            |
| <b>Total Other Operating Revenue</b> |                             | <b>\$ 1,306,199</b> | <b>\$ 1,349,641</b> | <b>\$ 43,442</b> | <b>3%</b>       |

## 2011 Actual Comparison to 2010 Actual – Other Operating Revenue:

Table 3-31 below summarizes the variance by account description followed by a discussion on material variances.

**Table 3-31 Comparison 2011 Actual to 2010 Actual**

| USoA #                               | USoA Description            | 2010<br>Actual      | 2011<br>Actual      | Difference<br>\$  | Difference<br>% |
|--------------------------------------|-----------------------------|---------------------|---------------------|-------------------|-----------------|
| 4082                                 | Retail Services Revenues    | 34,326              | 27,299              | (7,027)           | -20%            |
| 4084                                 | STR Revenue                 | 20,769              | 15,678              | (5,091)           | -25%            |
| 4086                                 | SSS Administration Revenue  | 91,279              | 95,183              | 3,904             | 4%              |
| 4210                                 | Rent from Electric Property | 204,294             | 210,681             | 6,387             | 3%              |
| 4225                                 | Late Payment Charges        | 203,072             | 207,858             | 4,786             | 2%              |
| 4235                                 | Specific Service Charges    | 712,961             | 620,946             | (92,015)          | -13%            |
| 4405                                 | Interest & Dividend Income  | 82,940              | 75,551              | (7,389)           | -9%             |
| <b>Total Other Operating Revenue</b> |                             | <b>\$ 1,349,641</b> | <b>\$ 1,253,196</b> | <b>-\$ 96,445</b> | <b>-7%</b>      |

In 2011 Specific Service Charge revenue was \$92,015 lower than in 2010 due to a reduction in Notification Charges and Disconnect/Reconnect fees associated with the OEB code amendments during this time.

**2012 Bridge Year Comparison to 2011 Actual – Other Operating Revenue:**

Detailed variance analysis for the 2012 Bridge Year compared to 2011 Actual results is provided below in Table 3-32. There are no material variances between these two periods.

**Table 3-32 Comparison 2012 Bridge Year to 2011 Actual**

| USoA #                               | USoA Description            | 2011 Actual         | 2012 Bridge Year    | Difference \$    | Difference % |
|--------------------------------------|-----------------------------|---------------------|---------------------|------------------|--------------|
| 4082                                 | Retail Services Revenues    | 27,299              | 22,000              | (5,299)          | -19%         |
| 4084                                 | STR Revenue                 | 15,678              | 11,000              | (4,678)          | -30%         |
| 4086                                 | SSS Administration Revenue  | 95,183              | 95,000              | (183)            | 0%           |
| 4210                                 | Rent from Electric Property | 210,681             | 210,000             | (681)            | 0%           |
| 4225                                 | Late Payment Charges        | 207,858             | 200,000             | (7,858)          | -4%          |
| 4235                                 | Specific Service Charges    | 620,946             | 644,000             | 23,054           | 4%           |
| 4405                                 | Interest & Dividend Income  | 75,551              | 82,000              | 6,449            | 9%           |
| <b>Total Other Operating Revenue</b> |                             | <b>\$ 1,253,196</b> | <b>\$ 1,264,000</b> | <b>\$ 10,804</b> | <b>1%</b>    |

**Comparison to 2013 Test Year to 2012 Bridge Year– Other Operating Revenue:**

Forecasted Other Operating Revenue for the 2013 Test Year is comparable to the 2012 Bridge Year as provided in the table below, as well as the 2011 Actual results in the Table above.

1 **Table 3-33 Comparison 2013 Test Year to 2012 Bridge Year**

| USoA #                               | USoA Description            | 2012 Bridge<br>Year | 2013 Test<br>Year   | Difference<br>\$ | Difference<br>% |
|--------------------------------------|-----------------------------|---------------------|---------------------|------------------|-----------------|
| 4082                                 | Retail Services Revenues    | 22,000              | 22,000              | -                | 0%              |
| 4084                                 | STR Revenue                 | 11,000              | 11,000              | -                | 0%              |
| 4086                                 | SSS Administration Revenue  | 95,000              | 95,000              | -                | 0%              |
| 4210                                 | Rent from Electric Property | 210,000             | 210,000             | -                | 0%              |
| 4225                                 | Late Payment Charges        | 200,000             | 200,000             | -                | 0%              |
| 4235                                 | Specific Service Charges    | 644,000             | 650,000             | 6,000            | 1%              |
| 4405                                 | Interest & Dividend Income  | 82,000              | 75,000              | (7,000)          | -9%             |
| <b>Total Other Operating Revenue</b> |                             | <b>\$ 1,264,000</b> | <b>\$ 1,263,000</b> | <b>-\$ 1,000</b> | <b>0%</b>       |

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## **Appendix E**

### **Monthly Data used for Regression Analysis**



## Appendix E

|        |                  | <u>Heating</u>     | <u>Cooling</u>     | <u>Ontario Real</u>  | <u>Number of</u> | <u>Spring Fall</u> | <u>Number of</u>  | <u>Predicted</u> |
|--------|------------------|--------------------|--------------------|----------------------|------------------|--------------------|-------------------|------------------|
|        | <u>Purchased</u> | <u>Degree Days</u> | <u>Degree Days</u> | <u>GDP Monthly %</u> | <u>Days in</u>   | <u>Flag</u>        | <u>Peak Hours</u> | <u>Purchases</u> |
|        |                  |                    |                    |                      | <u>Month</u>     |                    |                   |                  |
| Jan-04 | 88,017,601       | 971                | 0                  | 127.53               | 31               | 0                  | 336               | 84,580,191       |
| Feb-04 | 74,856,709       | 717                | 0                  | 127.80               | 29               | 0                  | 320               | 74,995,606       |
| Mar-04 | 73,324,078       | 537                | 0                  | 128.06               | 31               | 1                  | 368               | 71,646,461       |
| Apr-04 | 63,898,220       | 367                | 1                  | 128.32               | 30               | 1                  | 336               | 64,981,561       |
| May-04 | 60,883,254       | 188                | 5                  | 128.59               | 31               | 1                  | 320               | 61,880,056       |
| Jun-04 | 61,226,768       | 96                 | 13                 | 128.85               | 30               | 0                  | 352               | 63,982,383       |
| Jul-04 | 65,537,326       | 12                 | 48                 | 129.12               | 31               | 0                  | 336               | 66,321,374       |
| Aug-04 | 60,297,252       | 52                 | 31                 | 129.38               | 31               | 0                  | 336               | 65,654,245       |
| Sep-04 | 56,071,601       | 75                 | 9                  | 129.65               | 30               | 1                  | 336               | 59,014,468       |
| Oct-04 | 64,452,899       | 315                | 0                  | 129.92               | 31               | 1                  | 320               | 64,772,711       |
| Nov-04 | 69,356,277       | 458                | 0                  | 130.19               | 30               | 1                  | 352               | 68,178,306       |
| Dec-04 | 80,576,063       | 730                | 0                  | 130.45               | 31               | 0                  | 336               | 79,306,133       |
| Jan-05 | 86,332,339       | 852                | 0                  | 130.74               | 31               | 0                  | 320               | 81,733,199       |
| Feb-05 | 73,605,133       | 673                | 0                  | 131.03               | 28               | 0                  | 320               | 73,229,185       |
| Mar-05 | 76,572,507       | 649                | 0                  | 131.33               | 31               | 1                  | 352               | 74,501,364       |
| Apr-05 | 64,546,323       | 344                | 0                  | 131.62               | 30               | 1                  | 336               | 65,096,519       |
| May-05 | 61,750,575       | 231                | 0                  | 131.91               | 31               | 1                  | 336               | 63,771,495       |
| Jun-05 | 71,956,114       | 21                 | 93                 | 132.20               | 30               | 0                  | 352               | 71,096,141       |
| Jul-05 | 73,387,032       | 4                  | 134                | 132.50               | 31               | 0                  | 320               | 75,255,702       |
| Aug-05 | 72,098,075       | 4                  | 92                 | 132.79               | 31               | 0                  | 352               | 72,115,007       |
| Sep-05 | 64,972,689       | 55                 | 22                 | 133.09               | 30               | 1                  | 336               | 60,636,433       |
| Oct-05 | 65,688,638       | 263                | 2                  | 133.38               | 31               | 1                  | 320               | 64,432,384       |
| Nov-05 | 70,111,288       | 447                | 0                  | 133.68               | 30               | 1                  | 352               | 68,676,979       |
| Dec-05 | 79,917,691       | 730                | 0                  | 133.98               | 31               | 0                  | 320               | 79,456,881       |
| Jan-06 | 79,703,735       | 665                | 0                  | 134.25               | 31               | 0                  | 336               | 78,563,201       |
| Feb-06 | 74,315,353       | 701                | 0                  | 134.53               | 28               | 0                  | 320               | 74,693,505       |
| Mar-06 | 75,996,451       | 592                | 0                  | 134.81               | 31               | 1                  | 368               | 74,516,219       |
| Apr-06 | 63,231,564       | 330                | 0                  | 135.08               | 30               | 1                  | 304               | 64,266,818       |
| May-06 | 63,212,361       | 166                | 15                 | 135.36               | 31               | 1                  | 352               | 65,051,279       |
| Jun-06 | 66,176,947       | 35                 | 28                 | 135.64               | 30               | 0                  | 352               | 65,537,313       |
| Jul-06 | 71,462,724       | 4                  | 96                 | 135.92               | 31               | 0                  | 320               | 71,980,257       |
| Aug-06 | 70,161,206       | 27                 | 61                 | 136.20               | 31               | 0                  | 352               | 70,299,219       |
| Sep-06 | 61,162,530       | 138                | 3                  | 136.48               | 30               | 1                  | 320               | 60,767,961       |
| Oct-06 | 66,564,497       | 333                | 0                  | 136.76               | 31               | 1                  | 336               | 67,362,666       |
| Nov-06 | 69,340,297       | 417                | 0                  | 137.04               | 30               | 1                  | 352               | 68,682,676       |
| Dec-06 | 74,668,663       | 572                | 0                  | 137.33               | 31               | 0                  | 304               | 75,731,040       |
| Jan-07 | 81,968,591       | 761                | 0                  | 137.55               | 31               | 0                  | 352               | 82,253,440       |
| Feb-07 | 78,582,100       | 801                | 0                  | 137.78               | 28               | 0                  | 320               | 77,867,586       |
| Mar-07 | 77,387,451       | 626                | 0                  | 138.01               | 31               | 1                  | 352               | 75,438,263       |
| Apr-07 | 66,825,873       | 390                | 0                  | 138.23               | 30               | 1                  | 320               | 67,040,554       |
| May-07 | 63,985,051       | 176                | 9                  | 138.46               | 31               | 1                  | 352               | 65,366,196       |
| Jun-07 | 69,238,506       | 37                 | 54                 | 138.69               | 30               | 0                  | 336               | 68,317,717       |
| Jul-07 | 68,874,470       | 25                 | 52                 | 138.92               | 31               | 0                  | 336               | 69,221,492       |
| Aug-07 | 71,255,747       | 0                  | 0                  | 139.15               | 31               | 0                  | 352               | 63,908,975       |
| Sep-07 | 63,640,572       | 0                  | 0                  | 139.38               | 30               | 1                  | 304               | 57,119,807       |
| Oct-07 | 64,642,499       | 197                | 9                  | 139.61               | 31               | 1                  | 352               | 66,214,603       |
| Nov-07 | 71,823,632       | 528                | 0                  | 139.84               | 30               | 1                  | 352               | 72,043,506       |
| Dec-07 | 79,446,397       | 751                | 0                  | 140.07               | 31               | 0                  | 304               | 80,748,492       |

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Appendix E

|        | <u>Purchased</u> | <u>Heating<br/>Degree Days</u> | <u>Cooling<br/>Degree Days</u> | <u>Ontario Real<br/>GDP Monthly %</u> | <u>Number of<br/>Days in<br/>Month</u> | <u>Spring Fall<br/>Flag</u> | <u>Number of<br/>Peak Hours</u> | <u>Predicted<br/>Purchases</u> |
|--------|------------------|--------------------------------|--------------------------------|---------------------------------------|----------------------------------------|-----------------------------|---------------------------------|--------------------------------|
| Jan-08 | 81,373,762       | 711                            | 0                              | 139.97                                | 31                                     | 0                           | 352                             | 81,560,080                     |
| Feb-08 | 77,356,887       | 763                            | 0                              | 139.86                                | 29                                     | 0                           | 320                             | 78,805,291                     |
| Mar-08 | 77,132,501       | 720                            | 0                              | 139.76                                | 31                                     | 1                           | 304                             | 76,295,687                     |
| Apr-08 | 65,644,266       | 312                            | 0                              | 139.65                                | 30                                     | 1                           | 352                             | 66,684,488                     |
| May-08 | 63,027,512       | 231                            | 0                              | 139.55                                | 31                                     | 1                           | 336                             | 65,457,153                     |
| Jun-08 | 67,031,106       | 36                             | 39                             | 139.44                                | 30                                     | 0                           | 336                             | 66,919,559                     |
| Jul-08 | 70,797,854       | 7                              | 49                             | 139.34                                | 31                                     | 0                           | 352                             | 69,225,969                     |
| Aug-08 | 66,845,263       | 27                             | 34                             | 139.23                                | 31                                     | 0                           | 320                             | 66,873,984                     |
| Sep-08 | 64,588,581       | 122                            | 13                             | 139.13                                | 30                                     | 1                           | 336                             | 62,610,911                     |
| Oct-08 | 66,495,027       | 342                            | 0                              | 139.02                                | 31                                     | 1                           | 352                             | 68,685,240                     |
| Nov-08 | 71,142,534       | 508                            | 0                              | 138.92                                | 30                                     | 1                           | 304                             | 69,494,896                     |
| Dec-08 | 80,606,153       | 737                            | 0                              | 138.81                                | 31                                     | 0                           | 336                             | 81,324,241                     |
| Jan-09 | 86,796,095       | 925                            | 0                              | 138.39                                | 31                                     | 0                           | 336                             | 85,858,365                     |
| Feb-09 | 72,894,146       | 671                            | 0                              | 137.97                                | 28                                     | 0                           | 304                             | 74,102,443                     |
| Mar-09 | 74,293,097       | 586                            | 0                              | 137.54                                | 31                                     | 1                           | 352                             | 74,341,547                     |
| Apr-09 | 64,952,144       | 349                            | 0                              | 137.13                                | 30                                     | 1                           | 320                             | 65,803,919                     |
| May-09 | 60,781,513       | 201                            | 0                              | 136.71                                | 31                                     | 1                           | 320                             | 63,476,479                     |
| Jun-09 | 64,160,462       | 80                             | 20                             | 136.29                                | 30                                     | 0                           | 352                             | 65,914,849                     |
| Jul-09 | 65,102,418       | 30                             | 17                             | 135.87                                | 31                                     | 0                           | 352                             | 65,680,929                     |
| Aug-09 | 69,576,190       | 37                             | 53                             | 135.46                                | 31                                     | 0                           | 320                             | 68,258,097                     |
| Sep-09 | 62,658,163       | 109                            | 6                              | 135.05                                | 30                                     | 1                           | 336                             | 60,704,727                     |
| Oct-09 | 66,216,102       | 344                            | 0                              | 134.63                                | 31                                     | 1                           | 336                             | 67,136,885                     |
| Nov-09 | 67,775,538       | 413                            | 0                              | 134.22                                | 30                                     | 1                           | 320                             | 66,738,726                     |
| Dec-09 | 78,843,515       | 717                            | 0                              | 133.81                                | 31                                     | 0                           | 352                             | 80,328,034                     |
| Jan-10 | 82,338,464       | 794                            | 0                              | 134.14                                | 31                                     | 0                           | 320                             | 81,074,430                     |
| Feb-10 | 72,436,556       | 650                            | 0                              | 134.47                                | 28                                     | 0                           | 304                             | 72,820,691                     |
| Mar-10 | 70,342,533       | 470                            | 0                              | 134.81                                | 31                                     | 1                           | 368                             | 71,493,918                     |
| Apr-10 | 60,688,722       | 244                            | 0                              | 135.14                                | 30                                     | 1                           | 320                             | 62,797,890                     |
| May-10 | 65,376,291       | 133                            | 23                             | 135.47                                | 31                                     | 1                           | 320                             | 63,891,667                     |
| Jun-10 | 65,409,585       | 32                             | 24                             | 135.81                                | 30                                     | 0                           | 352                             | 65,066,831                     |
| Jul-10 | 75,030,142       | 6                              | 125                            | 136.14                                | 31                                     | 0                           | 336                             | 75,728,988                     |
| Aug-10 | 71,658,733       | 15                             | 66                             | 136.48                                | 31                                     | 0                           | 336                             | 69,916,371                     |
| Sep-10 | 62,552,017       | 125                            | 17                             | 136.81                                | 30                                     | 1                           | 336                             | 62,630,241                     |
| Oct-10 | 63,558,469       | 288                            | 0                              | 137.15                                | 31                                     | 1                           | 320                             | 65,717,369                     |
| Nov-10 | 68,996,385       | 472                            | 0                              | 137.49                                | 30                                     | 1                           | 336                             | 69,526,791                     |
| Dec-10 | 79,658,366       | 734                            | 0                              | 137.83                                | 31                                     | 0                           | 368                             | 82,253,128                     |
| Jan-11 | 83,591,644       | 878                            | 0                              | 138.03                                | 31                                     | 0                           | 336                             | 84,610,303                     |
| Feb-11 | 74,181,456       | 718                            | 0                              | 138.24                                | 28                                     | 0                           | 304                             | 75,320,226                     |
| Mar-11 | 76,852,077       | 623                            | 0                              | 138.44                                | 31                                     | 1                           | 368                             | 76,078,129                     |
| Apr-11 | 65,680,577       | 351                            | 0                              | 138.65                                | 30                                     | 1                           | 320                             | 66,192,022                     |
| May-11 | 64,269,545       | 143                            | 10                             | 138.86                                | 31                                     | 1                           | 336                             | 64,156,905                     |
| Jun-11 | 66,475,177       | 32                             | 25                             | 139.06                                | 30                                     | 0                           | 352                             | 65,847,970                     |
| Jul-11 | 75,911,509       | 0                              | 121                            | 139.27                                | 31                                     | 0                           | 320                             | 75,255,991                     |
| Aug-11 | 70,746,256       | 11                             | 47                             | 139.48                                | 31                                     | 0                           | 352                             | 69,122,522                     |
| Sep-11 | 64,010,688       | 95                             | 16                             | 139.69                                | 30                                     | 1                           | 336                             | 62,412,739                     |
| Oct-11 | 64,615,695       | 274                            | 0                              | 139.89                                | 31                                     | 1                           | 320                             | 65,975,324                     |
| Nov-11 | 67,802,485       | 407                            | 0                              | 140.10                                | 30                                     | 1                           | 352                             | 69,130,651                     |
| Dec-11 | 74,682,133       | 606                            | 0                              | 140.31                                | 31                                     | 0                           | 336                             | 78,448,838                     |

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|        | <u>Purchased</u> | <u>Heating<br/>Degree Days</u> | <u>Cooling<br/>Degree Days</u> | <u>Ontario Real<br/>GDP Monthly %</u> | <u>Number of<br/>Days in<br/>Month</u> | <u>Spring Fall<br/>Flag</u> | <u>Number of<br/>Peak Hours</u> | <u>Predicted<br/>Purchases</u> |
|--------|------------------|--------------------------------|--------------------------------|---------------------------------------|----------------------------------------|-----------------------------|---------------------------------|--------------------------------|
| Jan-12 |                  | 820                            | 0                              | 140.52                                | 31                                     | 0                           | 336                             | 83,736,370                     |
| Feb-12 |                  | 712                            | 0                              | 140.73                                | 29                                     | 0                           | 320                             | 77,731,705                     |
| Mar-12 |                  | 600                            | 0                              | 140.94                                | 31                                     | 1                           | 352                             | 75,453,318                     |
| Apr-12 |                  | 336                            | 0                              | 141.15                                | 30                                     | 1                           | 320                             | 66,387,682                     |
| May-12 |                  | 183                            | 8                              | 141.36                                | 31                                     | 1                           | 352                             | 66,097,056                     |
| Jun-12 |                  | 46                             | 37                             | 141.57                                | 30                                     | 0                           | 336                             | 67,416,201                     |
| Jul-12 |                  | 11                             | 80                             | 141.78                                | 31                                     | 0                           | 336                             | 72,467,887                     |
| Aug-12 |                  | 22                             | 48                             | 141.99                                | 31                                     | 0                           | 352                             | 70,054,070                     |
| Sep-12 |                  | 90                             | 11                             | 142.20                                | 30                                     | 1                           | 304                             | 61,083,493                     |
| Oct-12 |                  | 294                            | 1                              | 142.41                                | 31                                     | 1                           | 352                             | 68,411,887                     |
| Nov-12 |                  | 456                            | 0                              | 142.62                                | 30                                     | 1                           | 352                             | 70,892,316                     |
| Dec-12 |                  | 697                            | 0                              | 142.83                                | 31                                     | 0                           | 304                             | 80,014,454                     |
| Jan-13 |                  | 820                            | 0                              | 143.13                                | 31                                     | 0                           | 352                             | 84,929,531                     |
| Feb-13 |                  | 712                            | 0                              | 143.42                                | 28                                     | 0                           | 304                             | 76,324,126                     |
| Mar-13 |                  | 600                            | 0                              | 143.72                                | 31                                     | 1                           | 320                             | 74,845,829                     |
| Apr-13 |                  | 336                            | 0                              | 144.02                                | 30                                     | 1                           | 352                             | 68,251,160                     |
| May-13 |                  | 183                            | 8                              | 144.31                                | 31                                     | 1                           | 352                             | 66,753,902                     |
| Jun-13 |                  | 46                             | 37                             | 144.61                                | 30                                     | 0                           | 320                             | 67,479,425                     |
| Jul-13 |                  | 11                             | 80                             | 144.91                                | 31                                     | 0                           | 352                             | 73,776,389                     |
| Aug-13 |                  | 22                             | 48                             | 145.21                                | 31                                     | 0                           | 336                             | 70,156,140                     |
| Sep-13 |                  | 90                             | 11                             | 145.50                                | 30                                     | 1                           | 320                             | 62,430,974                     |
| Oct-13 |                  | 294                            | 1                              | 145.80                                | 31                                     | 1                           | 352                             | 69,166,013                     |
| Nov-13 |                  | 456                            | 0                              | 146.10                                | 30                                     | 1                           | 336                             | 71,053,155                     |
| Dec-13 |                  | 697                            | 0                              | 146.41                                | 31                                     | 0                           | 320                             | 81,420,907                     |