



File Number: EB-2014-0096

Date Filed: September 23, 2014

# **Exhibit 3**

## **OPERATING REVENUE**



File Number: EB-2014-0096

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## Exhibit 3

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Tab 1 of 4

Load and Revenue Forecasts

## 1 Load and Revenue Forecasts

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3 This exhibit provides details of NPEI's operating revenue for 2011 Actual, the 2012 Actual, 2013  
4 Actual, 2014BY and the 2015TY. The exhibit also provides a variance analysis of distribution  
5 throughput revenue by rate class. Operating revenue is exclusive of revenue from commodity  
6 sales. Distribution throughput revenue is attributable to fixed and variable charges for  
7 distribution services and is exclusive of other revenue. Net distribution throughput revenue is  
8 distribution revenue less transformation ownership allowance. Other revenue includes late  
9 payment service charges, other specific service charges, and other non-throughput related  
10 distribution revenue.

11 NPEI is proposing a total service revenue requirement of \$30,971,328 for the 2015 test year.  
12 This is comprised of a base distribution revenue requirement of \$29,374,853 plus revenue  
13 offsets of \$1,596,475 to be recovered through other revenue. The 2014 Bridge Year distribution  
14 revenue is based on NPEI's 2014 Board approved rates and NPEI's forecasted usage and  
15 customer counts. The proposed distribution revenue for 2015 has been calculated based on the  
16 2015 proposed distribution rates and 2015 forecasted usage customer counts. A summary of  
17 operating revenue is presented in Table 3-1 below.

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**Table 3-1: Summary of Operating Revenue**

Revenue Item	2011 Board Approved (\$)	2011 Actual (\$)	2012 Actual (\$)	2013 Actual (\$)	2014 Bridge (\$)	2015 Test (\$)
Distribution Revenue (Fixed and Volumetric)	29,818,865	26,969,849	27,756,275	27,893,149	28,284,395	29,374,853
<b>Total Throughput Revenue</b>	<b>29,818,865</b>	<b>26,969,849</b>	<b>27,756,275</b>	<b>27,893,149</b>	<b>28,284,395</b>	<b>29,374,853</b>
MicroFIT Monthly Service Charge	-	4,486	11,087	16,187	20,542	21,060
SSS Administration Charges	126,094	132,759	138,403	142,218	141,294	140,656
Miscellaneous Service Revenues	924,416	874,868	794,766	810,536	805,434	803,285
Late Payment Charge	381,550	419,155	372,203	353,574	357,661	361,000
Retailer Revenues	83,718	70,048	50,446	45,077	45,342	45,471
Other Utility Operating Income	82,416	43,664	42,683	48,359	43,100	44,000
Gain/Loss on Disposition/Retirements	-	16,397	359	(56,879)	-	-
Revenues/Expenses of Non-Utility Operations	240,885	198,278	343,909	147,195	26,072	-
Miscellaneous Non-Operating Income	40,000	58,882	118,923	118,062	111,027	81,003
Interest Dividend Income	127,863	140,673	174,715	180,173	307,684	157,000
<b>Total Other Revenue</b>	<b>2,006,942</b>	<b>1,959,211</b>	<b>2,047,495</b>	<b>1,804,503</b>	<b>1,858,155</b>	<b>1,653,475</b>
Less Carrying Charges	(45,195)	(55,431)	(54,350)	(63,298)	(187,684)	(57,000)
<b>Total Other Revenue excluding carrying charges</b>	<b>1,961,747</b>	<b>1,903,780</b>	<b>1,993,145</b>	<b>1,741,205</b>	<b>1,670,471</b>	<b>1,596,475</b>
Total Service Revenue including carrying charges	31,825,806	28,929,059	29,803,770	29,697,652	30,142,550	31,028,327
<b>Total Service Revenue excluding carrying charges</b>	<b>31,780,612</b>	<b>28,873,629</b>	<b>29,749,420</b>	<b>29,634,354</b>	<b>29,954,866</b>	<b>30,971,328</b>

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32 The Board's Decision and Order in NPEI's Stand Alone PILs Application (EB-2012-0028),  
 33 dated September 27, 2012, approved Rate Riders for the disposition of NPEI's Account 1562  
 34 PILs balance to be in effect from October 1, 2012 until April 30, 2014. NPEI has accounted for  
 35 the approved PILs Rate Riders in accordance with Question 6 of the Accounting Procedures  
 36 Handbook Frequently Asked Questions, issued July 2012. The FAQ answer to Question 6  
 37 provides the PILs Disposition accounting treatment for distributors that used Alternative #3 for  
 38 PILs. Under this method, which applies to NPEI, the amount of the PILs Rate Riders  
 39 recovered or refunded is recorded in account 4080 Distribution Revenue. In Table 3-1 above,  
 40 NPEI's expense from the PILs Rate Riders have been included in the Distribution Revenue  
 41 (Fixed and Volumetric) line. Table 3-2 shows the details of the PILS rate riders as a separate  
 42 line.

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44 The Board's Decision and Order in NPEI's Smart Meter Application (EB-2013-0359), dated  
 45 February 27, 2014, approved the disposition of NPEI's Smart Meter variance accounts, with  
 46 the exception of NPEI's Stranded Meter costs. Accordingly, NPEI has excluded all revenues  
 47 related to the smart meter decision in Tables 3-1 and 3-2. The smart meter revenue entry in  
 48 2014 was to bring \$2,301,640 into revenue, which represents the total that NPEI collected in

49 previous years from Board-approved Smart Meter Rate Adders, which were originally  
50 recorded in the Smart Meter variance account. In addition, NPEI has forecast that \$120,570  
51 will be recorded as revenue in 2014 from NPEI's approved SMDRs and SMIRRs. The total  
52 revenue in 2014 related to the Smart Meter Decision is  $\$2,301,640 + \$120,570 = \$2,422,210$ .

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54 NPEI's distribution revenue including the PILS rate rider by rate class for the years 2011  
55 Board approved, actual 2011, actual 2012, actual 2013, 2014BY and 2015Ty are shown in  
56 Table 3-2.

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**Table 3-2**

	2011 Board Approved		2011 Board Approved vs 2011 Actual		2012 Actual	2011 Actual vs 2012 Actual		2013 Actual	2012 Actual vs 2013 Actual		2014 Bridge Year	2013 Actual vs 2014 Bridge Year		2015 Test Year	2014 Bridge Year vs 2015 Test Year	
	\$	%	\$	%		\$	%		\$	%		\$	%		\$	%
Residential	16,748,175	14,533,786	(2,214,389)	-13.2%	15,126,236	592,450	4.1%	15,302,543	176,308	1.2%	15,469,053	166,509	1.1%	17,344,032	1,874,980	12.1%
GS<50 kW	3,665,081	3,536,785	(128,295)	-3.5%	3,555,036	18,251	0.5%	3,596,554	41,518	1.2%	3,635,815	39,261	1.1%	3,755,660	119,845	3.3%
GS>50 kW	9,029,648	8,616,824	(412,824)	-4.6%	8,688,838	72,013	0.8%	8,555,602	(133,236)	-1.5%	8,718,338	162,736	1.9%	7,789,542	(928,796)	-10.7%
Unmetered Scattered Load	141,357	121,930	(19,427)	-13.7%	138,117	16,187	13.3%	133,167	(4,951)	-3.6%	129,369	(3,798)	-2.9%	133,163	3,795	2.9%
Sentinel Lights	54,799	22,243	(32,556)	-59.4%	44,640	22,397	100.7%	57,655	13,015	29.2%	60,806	3,151	5.5%	68,911	8,106	13.3%
Streetlighting	179,805	138,281	(41,525)	-23.1%	203,409	65,128	47.1%	247,628	44,219	21.7%	271,015	23,387	9.4%	283,544	12,529	4.6%
<b>Subtotal, Distribution Revenue</b>	<b>29,818,865</b>	<b>26,969,849</b>	<b>(2,849,016)</b>	<b>-9.6%</b>	<b>27,756,275</b>	<b>786,426</b>	<b>2.9%</b>	<b>27,893,149</b>	<b>136,874</b>	<b>0.5%</b>	<b>28,284,395</b>	<b>391,246</b>	<b>1.4%</b>	<b>29,374,853</b>	<b>1,090,458</b>	<b>3.9%</b>
MicroFIT Monthly Service Charge	-	4,486	4,486	0.0%	11,087	6,601	147.1%	16,187	5,100	46.0%	20,542	4,354	26.9%	21,060	518	2.5%
SSS Administration Charges	126,094	132,759	6,665	5.3%	138,403	5,644	4.3%	142,218	3,815	2.8%	141,294	(924)	-0.6%	140,656	(638)	-0.5%
Miscellaneous Service Revenues	924,416	874,868	(49,547)	-5.4%	794,766	(80,102)	-9.2%	810,536	15,770	2.0%	805,434	(5,102)	-0.6%	803,285	(2,149)	-0.3%
Late Payment Charge	381,550	419,155	37,605	9.9%	372,203	(46,952)	-11.2%	353,574	(18,629)	-5.0%	357,661	4,087	1.2%	361,000	3,339	0.9%
Retailer Revenues	83,718	70,048	(13,670)	-16.3%	50,446	(19,602)	-28.0%	45,077	(5,369)	-10.6%	45,342	264	0.6%	45,471	130	0.3%
Other Utility Operating Income	32,416	43,664	11,248	34.7%	42,683	(981)	-2.2%	48,359	5,676	13.3%	43,100	(5,259)	-10.9%	44,000	900	2.1%
Gain/Loss on Disposition/Retirements	-	16,397	16,397	0.0%	359	(16,038)	-97.8%	(56,879)	(57,238)	-15950.3%	-	56,879	-100.0%	-	-	0.0%
Revenues/Expenses of Non-Utility Operations	290,885	198,278	(92,607)	-31.8%	343,909	145,631	73.4%	147,195	(196,714)	-57.2%	26,072	(121,123)	-82.3%	-	(26,072)	-100.0%
Miscellaneous Non-Operating Income	40,000	58,882	18,882	47.2%	118,923	60,041	102.0%	118,062	(861)	-0.7%	111,027	(7,035)	-6.0%	81,003	(30,024)	-27.0%
Interest and Dividend Income	127,863	140,673	12,810	10.0%	174,715	34,042	24.2%	180,173	5,458	3.1%	307,684	127,511	70.8%	157,000	(150,684)	-49.0%
<b>Subtotal, Other Revenue</b>	<b>2,006,942</b>	<b>1,959,211</b>	<b>(47,731)</b>	<b>-2.4%</b>	<b>2,047,495</b>	<b>88,284</b>	<b>4.5%</b>	<b>1,804,503</b>	<b>(242,992)</b>	<b>-11.9%</b>	<b>1,858,155</b>	<b>53,652</b>	<b>3.0%</b>	<b>1,653,475</b>	<b>(204,680)</b>	<b>-11.0%</b>
Less Carrying Charges	(45,195)	(55,431)	(10,236)	22.6%	(54,350)	1,081	-2.0%	(63,298)	(8,948)	16.5%	(187,684)	(124,386)	196.5%	(57,000)	130,684	-69.6%
<b>Total Other Revenue excluding carrying charges</b>	<b>1,961,747</b>	<b>1,903,780</b>	<b>(57,967)</b>	<b>-3.0%</b>	<b>1,993,145</b>	<b>89,365</b>	<b>4.7%</b>	<b>1,741,205</b>	<b>(251,940)</b>	<b>-12.6%</b>	<b>1,670,471</b>	<b>(70,734)</b>	<b>-4.1%</b>	<b>1,596,475</b>	<b>(73,996)</b>	<b>-4.4%</b>
<b>Total Service Revenue including carrying charges</b>	<b>31,780,612</b>	<b>28,873,629</b>	<b>(2,906,983)</b>	<b>-9.1%</b>	<b>29,749,420</b>	<b>875,791</b>	<b>3.0%</b>	<b>29,634,354</b>	<b>(115,066)</b>	<b>-0.4%</b>	<b>29,954,866</b>	<b>320,512</b>	<b>1.1%</b>	<b>30,971,328</b>	<b>1,016,462</b>	<b>3.4%</b>
<b>Total Operating Revenue including Carrying Charges</b>	<b>31,825,807</b>	<b>28,929,060</b>	<b>(2,896,747)</b>	<b>-9.1%</b>	<b>29,803,770</b>	<b>874,710</b>	<b>3.0%</b>	<b>29,697,653</b>	<b>(106,118)</b>	<b>-0.4%</b>	<b>30,142,550</b>	<b>444,898</b>	<b>1.5%</b>	<b>31,028,328</b>	<b>885,778</b>	<b>2.9%</b>

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61 NPEI's distribution revenue by Fixed and volumetric rate type and by rate class for the years 2011 Board approved, actual 2011,  
 62 actual 2012, actual 2013, 2014BY and 2015Ty are shown in Table 3-3.

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Table 3-3 Fixed and Volumetric distribution revenue

	2011 Board Approved		2011 Actual		2011 Actual vs 2010 Actual		2011 Actual vs 2011 Board Approved		2012 Actual		2012 Actual vs 2011 Actual		2013 Actual		2013 Actual vs 2012 Actual		2014 Bridge Year		2014 Bridge Year vs 2013 Actual		2015 Test Year		2015 Test Year vs 2014 Bridge Year	
			\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
<b>Throughput Revenue Gross(\$)</b>	29,818,865	26,969,849	1,224,131	4.8%	(2,849,016)	-9.6%	27,390,461	420,612	1.6%	26,338,400	(1,052,061)	-3.8%	27,776,156	1,437,756	5.5%	29,374,853	1,598,697	5.8%						
Add back: PILS Rate rider refund			-	0.0%	-	0.0%	365,815	365,815	0.0%	1,554,749	1,188,935	325.0%	508,239	(1,046,510)	-67.3%		(508,239)	-100.0%						
<b>Distribution Revenue</b>	29,818,865	26,969,849	1,224,131	4.8%	(2,849,016)	-9.6%	27,756,275	786,426	2.9%	27,893,149	136,874	0.5%	28,284,395	391,246	1.4%	29,374,853	1,090,458	3.9%						
<b>Fixed Charge</b>																								
Residential	9,186,185	8,148,585	521,826	6.8%	(1,037,600)	-11.3%	8,558,546	409,961	5.0%	8,746,789	188,243	2.2%	8,993,974	247,185	2.8%	11,273,383	2,279,410	25.3%						
GS<50 kW	1,980,456	1,816,906	119,195	7.0%	(163,550)	-8.3%	1,865,780	48,874	2.7%	1,916,108	50,328	2.7%	1,972,774	56,665	3.0%	2,441,279	468,505	23.7%						
GS>50 kW	2,236,903	1,936,524	(199,598)	-9.3%	(300,379)	-13.4%	1,796,865	(139,659)	-7.2%	1,826,562	29,697	1.7%	1,858,885	32,323	1.8%	1,647,013	(211,871)	-11.4%						
Unmetered Scattered Load	109,370	92,298	(36,655)	-28.4%	(17,072)	-15.6%	105,090	12,793	13.9%	102,683	(2,407)	-2.3%	98,798	(3,885)	-3.8%	101,871	3,072	3.1%						
Sentinel Lights	47,637	18,664	13,849	287.6%	(28,972)	-60.8%	36,993	18,329	98.2%	47,547	10,554	28.5%	49,353	1,806	3.8%	55,489	6,136	12.4%						
Streetlighting	117,542	90,368	33,631	59.3%	(27,174)	-23.1%	132,314	41,946	46.4%	162,658	30,344	22.9%	177,259	14,601	9.0%	185,594	8,336	4.7%						
<b>Total Fixed Revenue</b>	13,678,092	12,103,346	452,247	3.9%	(1,574,747)	-11.5%	12,495,589	392,243	3.2%	12,802,347	306,758	2.5%	13,151,042	348,695	2.7%	15,704,629	2,553,587	19.4%						
<b>Volumetric Charge</b>																								
Residential (kWh)	7,561,990	6,385,201	421,538	7.1%	(1,176,790)	-15.6%	6,567,690	182,489	2.9%	6,555,755	(11,935)	-0.2%	6,475,079	(80,676)	-1.2%	6,070,649	(404,430)	-6.2%						
GS<50 kW (kWh)	1,684,624	1,719,879	107,918	6.7%	35,255	2.1%	1,689,256	(30,623)	-1.8%	1,680,446	(8,810)	-0.5%	1,663,041	(17,405)	-1.0%	1,314,381	(348,660)	-21.0%						
GS>50 kW (kWh)	6,792,745	6,680,300	221,584	3.4%	(112,445)	-1.7%	6,891,972	211,672	3.2%	6,729,040	(162,932)	-2.4%	6,859,454	130,413	1.9%	6,142,529	(716,925)	-10.5%						
Unmetered Scattered Load (kWh)	31,988	29,632	-	0.0%	(2,356)	-7.4%	33,027	3,395	11.5%	30,483	(2,544)	-7.7%	30,570	87	0.3%	31,293	723	2.4%						
Sentinel Lights (kW)	7,162	3,579	3,100	647.1%	(3,584)	-50.0%	7,647	4,068	113.7%	10,108	2,462	32.2%	11,453	1,345	13.3%	13,422	1,969	17.2%						
Streetlighting (kW)	62,263	47,913	17,745	58.8%	(14,350)	-23.0%	71,095	23,182	48.4%	84,970	13,875	19.5%	93,756	8,786	10.3%	97,949	4,193	4.5%						
<b>Total Volumetric Revenue</b>	16,140,773	14,866,503	771,884	5.5%	(1,274,269)	-7.9%	15,260,687	394,183	2.7%	15,090,802	(169,884)	-1.1%	15,133,353	42,551	0.3%	13,670,224	(1,463,129)	-9.7%						
<b>Total (Fixed and Variable)</b>	29,818,865	26,969,849	1,224,131	4.8%	(2,849,016)	-9.6%	27,756,275	786,426	2.9%	27,893,149	136,874	0.5%	28,284,395	391,246	1.4%	29,374,853	1,090,458	3.9%						

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66 A Summary of Variances of Actual and Forecast data is included in the Board's Appendix 2-IA. See Exhibit 3 Tab 1 Attachment 3.

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68 NPEI has employed a multivariate regression model for its proposed load forecast for the 2015 Test Year. Further details are given  
 69 later in this Exhibit. (See Exhibit 3, Tab 1, Schedule 1).

70 Discussion and variance analysis on NPEI's Other Revenues is included below. (See Exhibit 3,  
71 Tab 3, Schedule 1).

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73 NPEI has also provided details and variance analysis on historical and forecast billing  
74 determinants (customer / connection counts, kWh consumption and kW demand), and weather  
75 normalized usage per customer. (See Exhibit 3, Tab 2, Schedule 1).

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91 **WEATHER NORMALIZED LOAD AND CUSTOMER/CONNECTION FORECAST**

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93 The purpose of this evidence is to present the process used by NPEI to prepare the weather  
94 normalized load and customer/connection forecast used to design the proposed 2015  
95 electricity distribution rates.

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97 In summary, NPEI has used the same regression analysis methodology used by a number of  
98 distributors in previous cost of service rate applications to determine a prediction model, which  
99 is an overall system purchased forecast versus class-specific forecasts. With regard to the  
100 overall process of load forecasting, NPEI submits that conducting a regression analysis on  
101 historical electricity purchases to produce an equation that will predict purchases is  
102 appropriate. NPEI has the data for the amount of electricity (in kWh) purchased from the IESO  
103 and other sources for use by its customers. With a regression analysis, these purchases can  
104 be related to other monthly explanatory variables such as heating degree days and cooling  
105 degree days which occur in the same month. The results of the regression analysis  
106 produce an equation that predicts the purchases based on the explanatory variables. This  
107 prediction model is then used as the basis to forecast the total quantity of weather normalized  
108 purchases of kWh's for the Bridge Year and the Test Year which is converted to forecast  
109 billed kWh by rate class. A detailed explanation of the process is provided later in this evidence.

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111 During proceedings related to the 2009 and 2010 cost of service applications for a number of  
112 other distributors, Intervenor expressed concerns with the load forecasting process that was  
113 proposed at that time by those distributors. During the review process of the 2009 cost of  
114 service applications, Intervenor suggested the regression analysis should be conducted on an  
115 individual rate class basis and the regression analysis would be based on monthly kWh by rate  
116 class. In NPEI's view, conducting a regression analysis which relates the monthly billed kWh of  
117 a class is problematic. The monthly billed amount does not correspond to the amount  
118 consumed in the month. The amount billed is based on billing cycles whose reading dates vary  
119 by customer within a rate class and typically are not at month end. The amount billed could  
120 include consumption from the month before or even further back. This issue is further  
121 exacerbated by the fact that the former Niagara Falls Hydro Inc. residential customers were

122 billed bi-monthly until May 2010, while the former Peninsula West Utilities customers were  
123 billed monthly. Using regression analysis to relate rate class billing data to a variable such as  
124 heating degree days does not appear to be appropriate, since the resulting regression model  
125 would attempt to relate heating degree days in a month to the amount billed in the month, not  
126 the amount consumed. In NPEI's view, variables such as heating degree days impact the  
127 amount consumed not the amount billed. NPEI has reviewed the data required to conduct the  
128 regression analysis on an individual rate class basis and would only be able to produce  
129 monthly consumed values (i.e. the amount consumed in the month not billed) from the time  
130 that NPEI commenced TOU billing, which was November 2011. In NPEI's view, this would not  
131 provide enough data items for the individual rate class regression analysis. Therefore, NPEI is  
132 not proposing a load forecast based on class-specific regression analysis.

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134 During the review of some previous cost of service applications, Board staff and Intervenors  
135 expressed concern that the regression analysis assigned coefficients to some variables that were  
136 counter-intuitive. For example, the customer variable would have a negative coefficient assigned  
137 to it which indicated that, as the number of customers increased, the energy forecast decreased.  
138 Some applicants explained that this was related to the recent Conservation and Demand  
139 Management ("CDM") savings in the utility but in the view of Board staff and Intervenors this was  
140 not a sufficient explanation. Further, the regression analysis indicated that some of the variables  
141 used in the load forecasting formula were not statistically significant and should not have been  
142 included in the equation. NPEI has addressed these concerns in the load forecast used in this  
143 Application. Based on the OEB's approval of this methodology in a number of previous cost-of-  
144 service applications, and based on the discussion that follows, NPEI submits that its load  
145 forecasting methodology is reasonable for the purposes of this Application.

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147 Table 3-4 provides the data to support the weather normalized load forecast used by NPEI in  
148 this Application

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**Table 3-4: Summary of Load and Customer/Connection Forecast for Energy**

Year	Billed (kWh)	Growth (kWh)	Percentage Change (%)	Customer/Connection (Count)	Growth (Count)	Percentage Change (%)
<b>2011 Board Approved</b>	<b>1,223,308,130</b>			65,533		
2003	1,108,347,420			59,715		
2004	1,135,405,804	27,058,384	2.44%	60,323	608	1.02%
2005	1,208,894,249	73,488,445	6.47%	61,003	680	1.13%
2006	1,184,184,647	-24,709,603	-2.04%	61,856	853	1.40%
2007	1,220,452,820	36,268,173	3.06%	62,459	603	0.97%
2008	1,188,897,732	-31,555,088	-2.59%	63,057	598	0.96%
2009	1,161,778,118	-27,119,614	-2.28%	64,026	968	1.54%
2010	1,193,712,076	31,933,958	2.75%	64,264	238	0.37%
2011	1,232,998,827	39,286,751	3.29%	64,494	230	0.36%
2012	1,214,015,314	-18,983,513	-1.54%	64,220	-274	-0.43%
2013	1,202,305,265	-11,710,049	-0.96%	64,913	693	1.08%
<b>2014 Bridge (Weather Normalized)</b>	<b>1,184,453,504</b>	<b>-17,851,761</b>	<b>-1.48%</b>	<b>65,467</b>	<b>554</b>	<b>0.85%</b>
<b>2015 Test (Weather Normalized)</b>	<b>1,185,817,112</b>	<b>1,363,608</b>	<b>0.12%</b>	<b>66,028</b>	<b>560</b>	<b>0.86%</b>

155  
 156

157 The information in the table above provides consumption based on actual weather from 2003  
 158 to 2013, while 2014 and 2015 are weather normalized. NPEI does not have a process to  
 159 statistically adjust weather actual data to a weather normal basis. However, based on the  
 160 process outlined in this Exhibit, a process to forecast energy on a weather normalized basis  
 161 has been developed and used in this Application. See Exhibit 3 Tab 2.

162

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

165

166 Actual and forecasted billed amounts and numbers of customers/connections are shown in  
 167 Table 3-5 and customer/connection usage is shown in Table 3-6, on a rate class basis.

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**Table 3-5: Billed Energy and Number of Customers/ Connections by Rate Class for Energy**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load	Total
<b>Billed Energy (kWh)</b>							
2011 Board Approved	462,790,265	122,331,880	628,090,148	7,467,591	292,817	2,335,428	1,223,308,130
2003	418,838,012	126,366,945	553,710,685	6,713,622	298,685	2,419,471	1,108,347,420
2004	404,285,804	122,937,633	598,431,001	7,027,058	299,222	2,425,087	1,135,405,804
2005	463,562,202	125,194,926	609,950,002	7,458,446	336,743	2,391,930	1,208,894,249
2006	450,017,939	122,020,708	601,216,533	8,236,754	317,191	2,375,520	1,184,184,647
2007	462,721,168	125,994,115	622,092,059	7,023,291	295,243	2,326,944	1,220,452,820
2008	450,470,690	122,663,804	605,669,659	7,504,236	286,832	2,302,512	1,188,897,732
2009	438,952,918	119,930,976	592,972,281	7,271,510	294,273	2,356,161	1,161,778,118
2010	451,343,387	121,294,614	611,065,862	7,368,898	293,544	2,345,772	1,193,712,076
2011	418,849,931	129,680,926	675,128,624	7,294,838	246,192	1,798,316	1,232,998,827
2012	414,592,237	125,465,897	664,095,955	7,329,519	267,435	2,264,271	1,214,015,314
2013	412,298,278	124,179,905	655,968,805	7,344,781	265,619	2,247,877	1,202,305,265
2014 Bridge (Weather Normalized)	402,178,821	120,510,242	651,859,447	7,411,072	262,521	2,231,402	1,184,453,504
2015 Test (Weather Normalized)	399,166,843	118,740,733	657,957,068	7,477,962	259,459	2,215,047	1,185,817,112
<b>Number of Customers/Connections</b>							
2011 Board Approved	46,900	4,352	848	12,408	560	465	65,533
2003	42,507	3,982	864	11,358	582	422	59,715
2004	42,859	4,033	819	11,588	602	422	60,323
2005	43,068	4,437	802	11,752	522	422	61,003
2006	43,724	4,438	871	11,807	594	422	61,856
2007	44,325	4,339	853	11,933	569	440	62,459
2008	44,955	4,260	847	11,986	564	445	63,057
2009	45,761	4,257	852	12,136	566	454	64,026
2010	45,840	4,357	851	12,334	417	465	64,264
2011	45,996	4,307	859	12,540	424	424	64,549
2012	45,871	4,260	855	12,507	343	384	64,220
2013	46,274	4,315	863	12,702	337	422	64,913
2014 Bridge (Weather Normalized)	46,669	4,350	863	12,845	320	422	65,467
2015 Test (Weather Normalized)	47,067	4,385	862	12,989	303	422	66,028

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**Table 3-6: Annual Usage per Customer/Connection by Rate Class for Energy**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load
<b>Energy Usage per Customer/Connection (kWh)</b>						
<b>2011 Board Approved</b>	9,868	28,107	740,379	602	523	5,020
2003	9,853	31,735	640,869	591	513	5,733
2004	9,433	30,483	730,685	606	497	5,747
2005	10,763	28,216	760,536	635	645	5,668
2006	10,292	27,495	690,260	698	534	5,629
2007	10,439	29,038	729,299	589	519	5,289
2008	10,020	28,794	715,076	626	508	5,175
2009	9,592	28,175	695,793	599	520	5,190
2010	9,846	27,840	718,056	597	704	5,045
2011	9,106	30,111	786,394	582	581	4,241
2012	9,038	29,453	776,553	586	779	5,904
2013	8,910	28,776	760,337	578	787	5,332
<b>2014 Bridge (Weather Normalized)</b>	<b>8,618</b>	<b>27,702</b>	<b>755,685</b>	<b>577</b>	<b>822</b>	<b>5,293</b>
<b>2015 Test (Weather Normalized)</b>	<b>8,481</b>	<b>27,076</b>	<b>762,866</b>	<b>576</b>	<b>857</b>	<b>5,255</b>
<b>Annual Growth Rate in Usage per Customer/Connection</b>						
<b>2011 Actual vs 2011 Actual</b>	-7.7%	7.1%	6.2%	-3.3%	11.1%	-15.5%
2003						
2004	-4.3%	-3.9%	14.0%	2.6%	-3.1%	0.2%
2005	14.1%	-7.4%	4.1%	4.7%	29.8%	-1.4%
2006	-4.4%	-2.6%	-9.2%	9.9%	-17.2%	-0.7%
2007	1.4%	5.6%	5.7%	-15.6%	-2.8%	-6.1%
2008	-4.0%	-0.8%	-2.0%	6.4%	-2.0%	-2.2%
2009	-4.3%	-2.2%	-2.7%	-4.3%	2.4%	0.3%
2010	2.6%	-1.2%	3.2%	-0.3%	35.3%	-2.8%
2011	-7.5%	8.2%	9.5%	-2.6%	-17.5%	-15.9%
2012	-0.7%	-2.2%	-1.3%	0.7%	34.2%	39.2%
2013	-1.4%	-2.3%	-2.1%	-1.3%	1.0%	-9.7%
<b>2014 Bridge (Weather Normalized)</b>	<b>-3.3%</b>	<b>-3.7%</b>	<b>-0.6%</b>	<b>-0.2%</b>	<b>4.4%</b>	<b>-0.7%</b>
<b>2015 Test (Weather Normalized)</b>	<b>-1.6%</b>	<b>-2.3%</b>	<b>1.0%</b>	<b>-0.2%</b>	<b>4.4%</b>	<b>-0.7%</b>

192

193

**194 Load Forecast and Methodology**

195

196 NPEI's weather normalized load forecast is developed in a three-step process. First, a total  
 197 system weather normalized purchased energy forecast is developed based on a multifactor  
 198 regression model that incorporates independent variables that impact the monthly historical load  
 199 pattern for NPEI. Second, the weather normalized purchased energy forecast is adjusted by a  
 200 historical loss factor to produce a weather normalized billed energy forecast. Next, the forecast

201 of billed energy by rate class is developed based on a forecast of customer numbers and  
202 historical usage patterns per customer. For the rate classes that have weather sensitive load,  
203 their forecasted billed energy is adjusted to ensure that the total billed energy forecast by rate  
204 class is equivalent to the total weather normalized billed energy forecast that has been  
205 determined from the regression model.

206  
207 The forecast of customers by rate class is determined using a geometric mean analysis. NPEI  
208 has used a geometric mean which calculates average customer/connection growth over 10  
209 years.

210  
211 For those rate classes that use kW for the distribution volumetric billing determinant, an  
212 adjustment factor is applied to the rate class energy forecast based on the historical relationship  
213 between kW and kWh to determine a forecast for billed kW.

214  
215 A detailed explanation of the load forecasting process follows.

216

### 217 **Purchased kWh Load Forecast**

218  
219 Purchased kWh is determined from the monthly IESO bills similar to the process used in 2011.  
220 In 2015, NPEI has accounted for kWh's from embedded generation which was obtained from  
221 January 2010 to December 2013 from NPEI's customer information system. Also in 2015, NPEI  
222 accounted for kWh's purchased and sold through load transfers between neighbouring Utilities.  
223 NPEI has reviewed load transfer data from January 2008 to December 2013 as January 2008  
224 was the beginning of the amalgamated companies. NPEI has load transfers between Canadian  
225 Niagara Power, Niagara-on-the-Lake Hydro, Hydro One, Welland Hydro, Grimsby Hydro and  
226 Horizon Utilities.

227  
228 An equation to predict total system purchased energy is developed using a multifactor  
229 regression model with the following independent variables: weather (heating and cooling degree  
230 days); Ontario real GDP; number of days in the month; CDM activity; spring/fall seasonal "flag"  
231 and the population of NPEI's service area. The regression model uses monthly kWh and monthly

232 values of independent variables from January 2002 to December 2013 to determine a  
233 prediction formula with coefficients for each independent variable. This provides 144 monthly  
234 data points, which represents a reasonable data set for use in a regression analysis. Consistent  
235 with the approach used by many other distributors in their cost of service applications, NPEI  
236 submits that it is appropriate to review the impact of weather over the period January 2002 to  
237 December 2013. Then NPEI determines the average weather conditions over this period which  
238 would be applied in the prediction formula to determine a weather normalized forecast. However,  
239 in accordance with the OEB's Filing Requirements, NPEI has also provided a sensitivity analysis  
240 showing the impact on the 2014 and 2015 forecasts of purchases assuming weather normal  
241 conditions that are based on a 10 year average and on a 20 year trend of weather data.

242

243 Weather impacts on load are apparent in both the winter heating season, and in the summer  
244 cooling season. For that reason, both Heating Degree Days (i.e. a measure of coldness in  
245 winter) and Cooling Degree Days (i.e. a measure of summer heat) are modeled.

246

247 The following outlines the prediction model used by NPEI to predict weather normal purchases  
248 for 2014 and 2015:

249

### 250 **NPEI's Monthly Predicted kWh Purchases**

251

252 = Heating Degree Days \* 23,655.35

253

254 + Cooling Degree Days \* 192,326.59

255

256 + Ontario Real GDP Monthly % \* 321,215.43

257

258 + Number of Days in the Month \* 2,930,932.03

259

260 + CDM Activity \* (5.31)

261

262 + Spring/Fall Flag \* (5,190,218.41)

263

264 + Population \* 1,320.71

265

266 + Intercept of (211,475,540.34)

267

268 The monthly data used in the regression model and the resulting monthly prediction for the  
269 actual and forecasted years are provided in Exhibit 3 Tab 1 Attached 1.

270

271

272 The sources of data for the various data points are:

273

274 • Environment Canada website for monthly heating degree day and cooling degree  
275 day information. When available, data from the Port Weller weather station was  
276 used. The Port Weller station is located in between NPEI's two service areas  
277 (Niagara Falls and Peninsula West), and therefore NPEI submits that Port Weller  
278 data provides a suitable representation of average weather across NPEI's total  
279 service area. When data for the Port Weller station was not available, data for  
280 Grimsby Mountain weather station was used instead. Environment Canada  
281 defines heating degree-days and cooling degree-days as follows<sup>1</sup>: *Heating  
282 degree-days for a given day are the number of degrees Celsius that the mean  
283 temperature is below 18°C. Cooling degree-days for a given day are the number  
284 of degrees Celsius that the mean temperature is above 18°C.*

285

286 • The calendar provided information related to the number of days in the month  
287 and the months defined to be spring or fall (i.e. March to May and September to  
288 November.)

289

290 • For 2002 to 2007, the source of data for the Ontario Real GDP information was

---

<sup>1</sup> [http://climate.weather.gc.ca/glossary\\_e.html](http://climate.weather.gc.ca/glossary_e.html)

291 the 2008 Ontario Economic Outlook and Fiscal Review, Ontario Ministry of  
292 Finance<sup>2</sup>. For 2008 to 2009, the source was the 2012 Ontario Economic Outlook  
293 and Fiscal Review<sup>3</sup>. For 2010 to 2015, the Ontario Real GDP data was obtained  
294 from the 2013 Ontario Budget Chapter 2: Ontario's Economic Outlook and Fiscal  
295 Plan<sup>4</sup>. NPEI notes that the Real GDP Growth values used for 2013 to 2015 are  
296 Ontario Ministry of Finance planning projections.

297

- 298 • The CDM activity variable is an estimated level of monthly activity in CDM  
299 energy savings, measured in net kWh. For the years 2006 to 2012, the results are  
300 taken from NPEI's Net Energy Savings from the Final CDM Results, as reported  
301 by the OPA. For the years 2013 and 2014, the results are forecast based on  
302 the amounts necessary for NPEI to meet its four year licensed CDM kWh target  
303 of 58,000,000 kWh by the end of 2014. At this time, the nature of what CDM  
304 initiatives will be offered to NPEI's customers in 2015 is not yet clear. In the  
305 absence of detail on 2015 CDM programs, NPEI has estimated CDM activity  
306 from new initiatives in 2015 as 2.9 million kWh, which is 5% of NPEI's 58 million  
307 kWh four-year target from 2011 to 2014. At the time that NPEI prepared its  
308 weather normalized load forecast, the 2015 – 2020 CDM targets had not yet  
309 been published. NPEI notes that the energy savings reported by the OPA are  
310 annualized values. However, the CDM initiatives are actually implemented at  
311 various times throughout the year. To account for this, NPEI has only included  
312 50% of the incremental change each year in the CDM Activity regression  
313 variable, in accordance with the Filing Requirements (Section 2.6.1.3 CDM  
314 Adjustments for the Load Forecast for Distributors). Within each year, the  
315 monthly values grow at an equal monthly increment, which is consistent with  
316 the approach taken in other recent Cost of Service applications<sup>5</sup>. Table 3-7

---

<sup>2</sup> <http://www.fin.gov.on.ca/en/budget/fallstatement/2008/08fs-ecoTables.html>

<sup>3</sup> <http://www.fin.gov.on.ca/en/budget/fallstatement/2012/>

<sup>4</sup> <http://www.fin.gov.on.ca/en/budget/ontariobudgets/2013/ch2c.html>

<sup>5</sup> See Kitchener-Wilmot Hydro Inc.'s 2014 COS Application, EB-2013-0147, Exhibit 3, Tab 1, Schedule 4.

317 outlines the Net Energy Savings, on an annualized basis, for the years 2006 to  
 318 2015. A discussion on how the load forecast is adjusted for 2014 and 2015  
 319 programs and how LRAM variance account values are determined by rate class  
 320 is provided later in this schedule.

321  
 322 NPEI has included Appendix 2-I Load forecast CDM Adjustment Work form  
 323 (2015) in Exhibit 3 Tab 1 Attachment 2.

324  
 325 **Table 3-7: CDM Summary**

2006 through 2012 Final Results - kWh				
2013 through 2015 Forecast - kWh				
2006	2007	2008	2009	2010
4,211,271	7,800,592	9,396,789	13,106,362	14,225,868
2011	2012	2013	2014	2015
17,860,867	23,164,672	30,183,942	36,443,378	36,522,714

326  
 327  
 328 • The population data for NPEI’s service area was taken from the Niagara  
 329 Region’s web site<sup>6</sup>. Population by municipality is presented from 1996, 2001,  
 330 2006 and 2011, based on 2011 Census data. NPEI calculated the growth rate in  
 331 population for each Municipality in NPEI’s service area from 2006 to 2011 (5  
 332 years). NPEI then pro-rated these values to arrive at the forecast growth rates in  
 333 population for 2011 to 2015 (4 years) for each Municipality. The resulting  
 334 weighted-average growth rate for NPEI’s total service area for the 4 years 2011  
 335 to 2015 is 1.63%. The population variable is then incremented by an equal  
 336 amount each month to attain the December 2015 forecast level. Table 3-8 shows  
 337 NPEI’s service area population data.

<sup>6</sup> <http://www.niagararegion.ca/about-niagara/statistics/population-and-maps.aspx>

342  
343

**Table 3-8: NPEI's Service Area Population**

	Census Data					
	1996	2001	2006	2011	Forecast 2015	
Niagara Falls	76,917	78,815	82,184	82,997	83,654	
Lincoln	18,801	20,612	21,722	22,487	23,121	
West Lincoln	11,513	12,268	13,167	13,837	14,400	
Pelham	14,393	15,272	16,155	16,598	16,962	
Subtotal	121,624	126,967	133,228	135,919	138,137	
Pelham excluded customers	(764)	(823)	(872)	(896)	(916)	
Total	120,860	126,144	132,356	135,023	137,221	
						<b>Pro-Rated Growth Rate (4 years)</b>
<b>Growth Rates (5 years)</b>						
Niagara Falls		2.47%	4.27%	0.99%	0.79%	
Lincoln		9.63%	5.39%	3.52%	2.82%	
West Lincoln		6.56%	7.33%	5.09%	4.07%	
Pelham		6.11%	5.78%	2.74%	2.19%	
Weighted Growth Rate		4.37%	4.92%	2.02%	<b>1.63%</b>	

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The proposed prediction formula produced by the regression analysis excluding the variable of Peak Hours has the following statistical results:

**Table 3-9: Statistical Results**

Statistic	Value
R Square	94.7%
Adjusted R Square	94.4%
F Test	347.1
MAPE (Calculated monthly)	1.90%
<b>T-stats by Coefficient</b>	
Intercept	-6.7
Heating Degree Days	15.1
Cooling Degree Days	25.1
Ontario Real GDP Monthly %	2.4
Number of Days in Month	10.8
CDM kWh Saved in month	-7.3
Spring Fall Flag	-9.0
Population	3.8

350

351 The annual results of the above prediction formula compared to the actual annual purchases  
 352 from 2002 to 2013 are shown in Table 3-10 below.

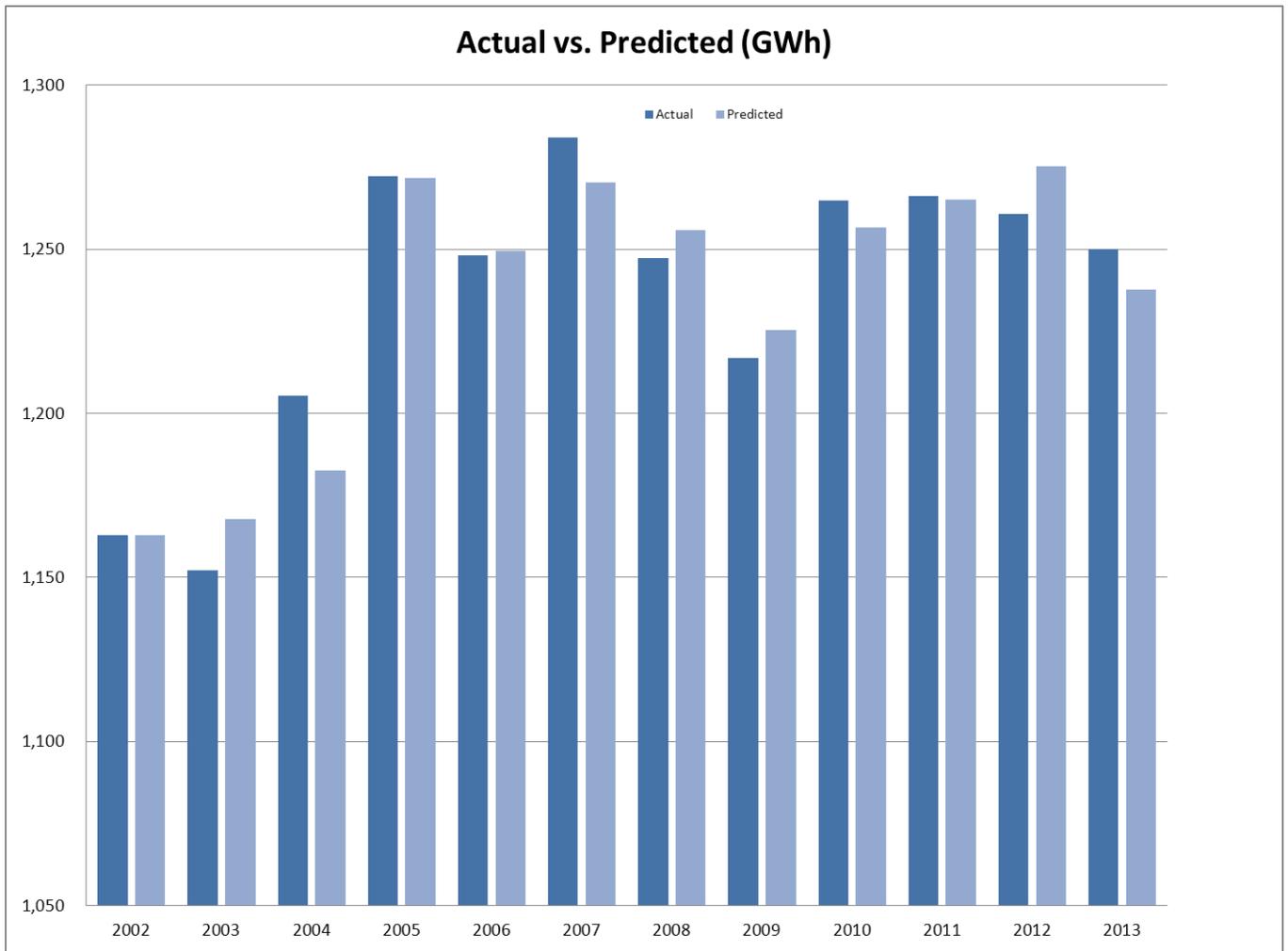
353

354

355

**Table 3-10: Actual vs. Predicted (Annual GWh)**

356



357

358 Note: this chart is also included in NPEI’s live Excel Weather Normalization Regression model,  
 359 which is being submitted along with this Application. See worksheet ‘Annual Chart’ in the  
 360 accompanying weather normalization Excel file.

361 Our model does not appear to be biased in either over-estimating or under-estimating the actual  
 362 results.

1 Table 3-11 outlines the data that supports the above chart. In addition, the predicted total  
2 system purchases for NPEI are provided for 2014 and 2015. For 2014 and 2015, the system  
3 purchases reflect a weather normalized forecast for the full year, based on 12 year average  
4 weather normalization. Values for 2015 are also provided on 10 year average and a 20 year  
5 trend assumption for weather normalization.

6  
7

**Table 3-11: Total System Purchases**

Year	Actual	Predicted	Difference
Purchased Energy (kWh)			
2002	1,162,710,674	1,162,665,476	0.0%
2003	1,152,043,160	1,167,650,716	1.3%
2004	1,205,241,074	1,182,645,856	-1.9%
2005	1,272,191,339	1,271,722,798	0.0%
2006	1,248,057,840	1,249,433,262	0.1%
2007	1,283,916,366	1,270,377,856	-1.1%
2008	1,247,356,069	1,255,843,368	0.7%
2009	1,216,807,819	1,225,399,085	0.7%
2010	1,264,714,637	1,256,450,873	-0.7%
2011	1,266,311,662	1,265,208,873	-0.1%
2012	1,260,789,451	1,275,140,355	1.1%
2013	1,250,000,080	1,237,576,507	-1.0%
<b>2014 Weather Normal - 12 year average</b>		<b>1,238,461,756</b>	
<b>2015 Weather Normal - 12 year average</b>		<b>1,245,167,213</b>	
<b>2015 Weather Normal - 10 year average</b>		<b>1,245,229,010</b>	
<b>2015 Weather Normal - 20 year trend</b>		<b>1,250,115,772</b>	

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The weather normalized amount for 2015 is determined by using the 2015 values of the 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 2002 to December 2013 (12 years). The 2015 weather normalized 10 year average amount reflects the average monthly heating degree days and cooling degree days that occurred from January 2004 to December 2013. The 20 year trend value is based on the trends in monthly heating degree days and cooling degree days that occurred from January 1994 to December 2013, which were calculated using Microsoft Excel's TREND function.

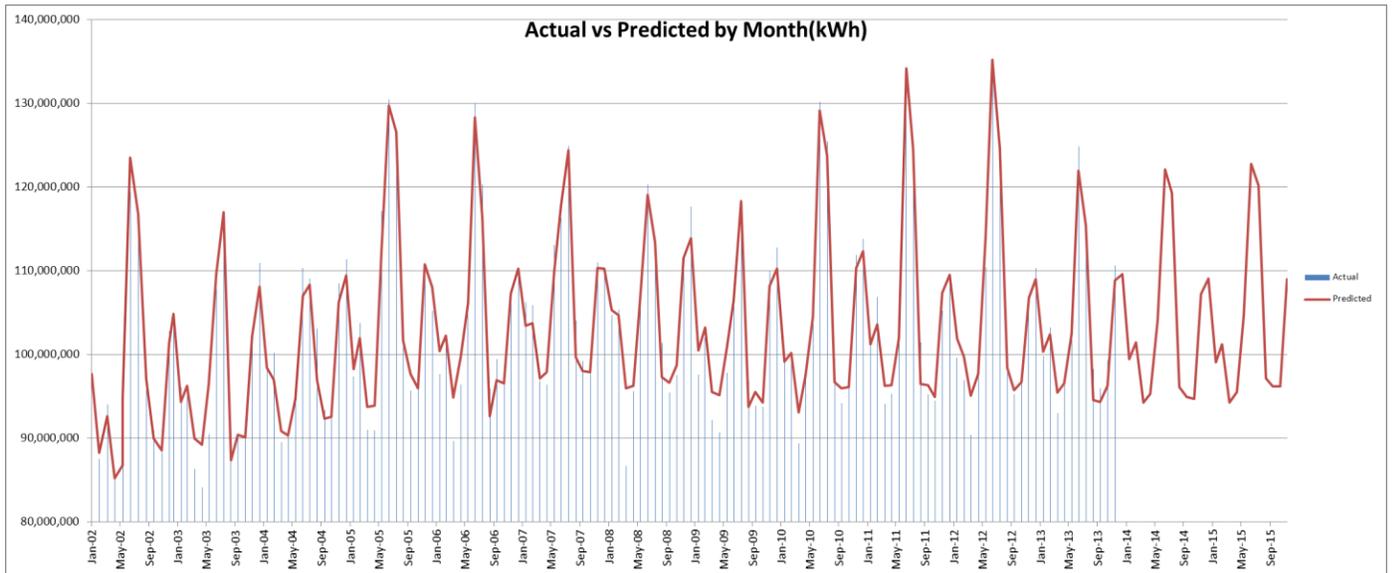
1 The weather normal 12 year average has been used in the power purchased forecast in this  
2 Application for the purposes of determining a billed kWh load forecast which is used to design  
3 rates. The 12 year average has been used as this is consistent with the period of time over  
4 which the regression analysis was conducted.

5 Table 3-12 below displays the actual versus predicted kWh purchases from 2002 to 2013 on a  
6 monthly basis, and also displays the monthly predicted values for the 2014 Bridge Year and  
7 2015 Test Year, using 12 year average weather as discussed above.

8

9

**Table 3-12: Actual vs. Predicted (Monthly kWh)**



10

11 Note: this chart is also included in NPEI's live Excel Weather Normalization Regression model,  
12 which is being submitted along with this Application. See worksheet 'Monthly Chart' in the  
13 accompanying Excel file.

14

**15 Billed kWh Load Forecast**

16

17 To determine the total weather normalized energy billed forecast, the total system weather  
18 normalized purchases forecast is adjusted by a historical loss factor. Table 3-13 below shows  
19 NPEI's historical purchased and billed kWh from 2003 to 2013, as well as the resulting annual  
20 loss factors. The average loss factor over the entire 11 year period (2003 to 2013) is 1.0473.

1 The average loss factor over the most recent 5 year period (2009 to 2013) is 1.0424. For the  
2 purposes of converting the weather normalized purchases to billed quantities for the 2014  
3 Bridge Year and 2015 Test Year, NPEI has used the 5 year average loss factor of 1.0424, as  
4 this value more accurately reflects NPEI's current actual distribution losses.

5

6

**Table 3-13: Historical Distribution Loss Factors**

Year	Total Purchases (kWh)	Total Billed (kWh)	Distribution Loss Factor
2003	1,152,043,160	1,108,347,420	1.0394
2004	1,205,241,074	1,135,405,804	1.0615
2005	1,272,191,339	1,208,894,249	1.0524
2006	1,248,057,840	1,184,184,647	1.0539
2007	1,283,916,366	1,220,452,820	1.0520
2008	1,247,356,069	1,188,897,732	1.0492
2009	1,216,807,819	1,161,778,118	1.0474
2010	1,264,714,637	1,193,712,076	1.0595
2011	1,266,311,662	1,232,998,827	1.0270
2012	1,260,789,451	1,214,015,314	1.0385
2013	1,250,000,080	1,202,305,265	1.0397
11 Year Average (2003-2013)			1.0473
<b>5 Year Average (2009 - 2013)</b>			<b>1.0424</b>

7

8

9 The adjustment from the weather normalized purchases to the weather normalized billed  
10 quantities has been made by NPEI using the 5 year average loss factor from 2009 to 2013  
11 of 1.0424, as discussed above. With this average loss factor, the total weather normalized  
12 billed energy is 1,188.1 GWh for 2014 (i.e. 1,238.5 GWh / 1.0424) and 1,194.5 GWh for  
13 2015 (i.e. 1,245.2 GWh / 1.0424) before adjustments for 2014 and 2015 CDM programs.

14

### 15 **Billed kWh Load Forecast and Customer/Connection Forecast by Rate Class**

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

20

1 The next step in the forecasting process is to determine a customer/connection forecast. The  
2 customer/connection forecast is based on reviewing historical customer/connection data that is  
3 available as shown in Table 3-14. Historical customer/connection and billing data is  
4 available for all rate classes from the year 2003 and onward.

5  
6 **Table 3-14: Historical Customer/Connection Data for Energy**

Number of Customers/Connections							
Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load	Total
2003	42,507	3,982	864	11,358	582	422	59,715
2004	42,859	4,033	819	11,588	602	422	60,323
2005	43,068	4,437	802	11,752	522	422	61,003
2006	43,724	4,438	871	11,807	594	422	61,856
2007	44,325	4,339	853	11,933	569	440	62,459
2008	44,955	4,260	847	11,986	564	445	63,057
2009	45,761	4,257	852	12,136	566	454	64,026
2010	45,840	4,357	851	12,334	417	465	64,264
2011	45,996	4,307	859	12,540	369	424	64,494
2012	45,871	4,260	855	12,507	343	384	64,220
2013	46,274	4,315	863	12,702	337	422	64,913

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9 From the historical customer/connection data, the growth rates in customers/connections can  
10 be evaluated. The annual growth rates are provided in Table 3-15. The geometric mean  
11 growth rate in number of customers/connections is also provided for each rate class. The  
12 geometric mean approach provides the average compounding growth rate from 2004 to 2013.

1

**Table 3-15: Growth Rate in Customer/ Connections for Energy**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load
<b>Growth Rate in Customers/Connections for Energy</b>						
2004	1.0083	1.0128	0.9479	1.0203	1.0344	1.0000
2005	1.0049	1.1002	0.9792	1.0142	0.8671	1.0000
2006	1.0152	1.0002	1.0860	1.0047	1.1379	1.0000
2007	1.0137	0.9777	0.9793	1.0107	0.9579	1.0427
2008	1.0142	0.9818	0.9930	1.0044	0.9917	1.0113
2009	1.0179	0.9992	1.0062	1.0126	1.0022	1.0203
2010	1.0017	1.0235	0.9986	1.0163	0.7374	1.0242
2011	1.0034	0.9885	1.0088	1.0166	0.8851	0.9119
2012	0.9973	0.9891	0.9961	0.9974	0.9299	0.9045
2013	1.0088	1.0130	1.0088	1.0156	0.9832	1.0992
<b>Geometric Mean</b>	1.0085	1.0081	0.9999	1.0112	0.9470	0.9999

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The resulting geometric means are applied to the 2013 customer/connection numbers to determine the forecast of customer/connections for 2014. Then the geometric means are applied again to the 2014 values to determine the 2015 customer/connection forecast. Table 3-16 outlines the forecast of customers and connections by rate class.

**Table 3-16: Customer/ Connection Forecast for Energy**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load
<b>Forecast Number of Customers/ Connections for Energy</b>						
2014 Bridge	46,669	4,350	863	12,845	320	422
2015 Test	47,067	4,385	862	12,989	303	422

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The next step in the process is to review the historical customer/connection usage and to reflect this usage per customer in the forecast. Table 3-17 provides the average annual usage per customer by rate class from 2003 to 2013.

1

**Table 3-17: Historical Annual usage per Customer for Energy**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load
<b>Annual Energy Usage per Customer/Connection (kWh)</b>						
2003	9,853	31,735	640,869	591	513	5,733
2004	9,433	30,483	730,685	606	497	5,747
2005	10,763	28,216	760,536	635	645	5,668
2006	10,292	27,495	690,260	698	534	5,629
2007	10,439	29,038	729,299	589	519	5,289
2008	10,020	28,794	715,076	626	508	5,175
2009	9,592	28,175	695,793	599	520	5,190
2010	9,846	27,840	718,056	597	704	5,045
2011	9,106	30,111	786,394	582	667	4,241
2012	9,038	29,453	776,553	586	779	5,904
2013	8,910	28,776	760,337	578	787	5,332

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4 From the historical usage per customer/connection data the growth rate in usage per  
 5 customer/connection can be reviewed. That information is provided in Table 3-18. The  
 6 geometric mean growth rates have also been shown.

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**Table 3-18: Growth Rate in Usage per Customer/Connection for Energy**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load
<b>Annual Growth Rate in Usage per Customer/Connection</b>						
2004	0.957	0.961	1.140	1.026	0.969	1.002
2005	1.141	0.926	1.041	1.047	1.298	0.986
2006	0.956	0.974	0.908	1.099	0.828	0.993
2007	1.014	1.056	1.057	0.844	0.972	0.939
2008	0.960	0.992	0.980	1.064	0.980	0.978
2009	0.957	0.978	0.973	0.957	1.024	1.003
2010	1.026	0.988	1.032	0.997	1.353	0.972
2011	0.925	1.082	1.095	0.974	0.948	0.841
2012	0.993	0.978	0.987	1.007	1.168	1.392
2013	0.986	0.977	0.979	0.987	1.010	0.903
Geometric Mean	0.990	0.990	1.017	0.998	1.044	0.993

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10

11 For the forecast of usage per customer/connection, the historical geometric means are  
 12 applied to the 2013 usage per customer/connection to determine the 2014 forecast. The

1 geometric mean is applied again to the 2014 values to determine the 2015 forecast and the  
 2 resulting energy usage forecast is as follows in Table 3-19 below:

3

4 **Table 3-19: Forecast Annual kWh Usage per Customer/ Connection for Energy**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load
<b>Forecast Annual kWh Usage per Customers/Connection for Energy (Non-Normalized)</b>						
2014 Bridge	8,821	28,495	773,446	577	822	5,293
2015 Test	8,732	28,218	786,781	576	857	5,255

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6

7 With the preceding information, the non-normalized weather billed energy forecast can be  
 8 determined by multiplying the forecast numbers of customers/connections from Table 3-16 by  
 9 the forecast of annual usage per customer/connection from Table 3-19. The resulting non-  
 10 normalized weather billed energy forecast is shown in Table 3-20.

11

12 **Table 3-20: Non-normalized Weather Billed Energy Forecast (GWh) for Energy**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load	Total
<b>Non-normalized Weather Billed Energy Forecast (kWh) for Energy</b>							
2014	411,649,947	123,963,294	667,180,301	7,411,072	262,521	2,231,402	1,212,698,537
2015	411,002,636	123,747,060	678,583,419	7,477,962	259,459	2,215,047	1,223,285,582

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14

15 The non-normalized weather billed energy forecast has been determined, but this now needs  
 16 to be adjusted in order to be aligned with the total weather normalized billed energy  
 17 forecast. As previously determined, the total weather normalized billed energy forecast is  
 18 1,188.1 GWh for 2014 and 1,194.5 GWh for 2015, before the manual adjustments for 2014  
 19 and 2015 CDM programs.

20

21 The difference between the non-normalized and weather normalized forecasts, before CDM  
 22 adjustments, is -24.6 GWh in 2014 (i.e. 1,188.1 GWh – 1,212.7 GWh) and -28.8 GWh in  
 23 2014 (i.e. 1,194.5 GWh - 1,223.3 GWh). The difference is assumed to be associated with  
 24 moving the forecast from a non-normalized to a weather normal basis and this amount will

1 be assigned to those rate classes that are weather sensitive. Table 3-21 below indicates  
 2 NPEI's proposed percentages of weather sensitivity by rate class.

3

4

**Table 3-21: Weather Sensitivity by Rate Class for Energy**

Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load
<b>Weather Sensitivity</b>					
93.50%	93.50%	87.00%	0.00%	0.00%	0.00%

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6

7 Based on the weather normalization work completed by Hydro One for NPEI for the cost  
 8 allocation study, it was determined that the General Service > 50 kW class is 87% weather  
 9 sensitive. The data provided by Hydro One did not specify a level of weather sensitivity for the  
 10 Residential and General Service < 50 kW classes. NPEI submits that, while it is intuitively  
 11 improbable that the Residential and General Service < 50 kW classes are 100% weather sensitive,  
 12 it is reasonable to assume that the consumption for these classes is more sensitive to weather  
 13 conditions than the General Service > 50 kW class. Therefore, for the purpose of weather-  
 14 normalizing the load forecast, NPEI has assigned a weather sensitivity value to the Residential  
 15 and General Service < 50 kW classes that is mid-way between 100% and 87%, which is 93.5%.  
 16 NPEI notes that a weather sensitivity of 93.5% for the Residential and General Service < 50 kW  
 17 classes were also proposed and accepted in NPEI's 2011 COS Application (EB-2010-0138)<sup>7</sup>. All  
 18 other classes are assigned a weather sensitivity of zero. The differences between the non-  
 19 normalized and normalized forecasts of -24.6 GWh in 2014 and -28.8 GWh in 2015 have been  
 20 assigned on a *pro rata* basis to each rate class based on the above level of weather sensitivity.

21

22 In addition, a manual adjustment has been made to reflect the impact of 2014 and 2015  
 23 CDM programs on the load forecast. The manual CDM adjustment for the 2014 Bridge Year is  
 24 one half of the results of the 2014 initiatives. The manual CDM adjustment for the 2015 Test  
 25 Year is one half of the results of the 2015 initiatives, plus a full year of the persistence of the

<sup>7</sup> See NPEI's 2011 COS Application, EB-2010-0138, Exhibit 3, Page 42 of 85.

1 2014 programs. These adjustments reflect the net kWh impact of CDM programs in the load  
 2 forecast.

3  
 4 As previously discussed, the final results for CDM programs from 2006 to 2012 are known and  
 5 have been used in the CDM activity variable included in the regression analysis supporting the  
 6 prediction formula. The persistence of 2011 and 2012 results into 2013 and 2014 has an impact  
 7 on the expected savings that will be necessary in 2013 to 2014 in order to achieve NPEI's  
 8 licensed CDM target of 58,000,000 kWh. As indicated in Table 3-22 below, the 2011 and 2012  
 9 CDM programs, including persistence into 2013 and 2014, will contribute 33.71% + 28.85% =  
 10 62.56% to the four year savings target. Therefore, NPEI has calculated that the level of CDM  
 11 savings required in each of 2013 and 2014 will be  $(100\% - 62.56\%) / 3 = 12.48\%$ , which equates  
 12 to 7,238,049 kWh.

13  
 14 **Table 3-22: Four Years 2011 to 2014 CDM Net Savings Forecast**

<b>4 Year 2011 to 2014 kWh Net Savings Forecast</b>					
58,000,000					
	2011	2012	2013	2014	Total
2011 Programs	8.67%	8.67%	8.45%	7.93%	33.71%
2012 Programs	0.00%	9.68%	9.68%	9.48%	28.85%
2013 Programs	0.00%	0.00%	12.48%	12.48%	24.96%
2014 Programs	0.00%	0.00%	0.00%	12.48%	12.48%
	8.67%	18.35%	30.61%	42.37%	100.00%
kWh					
2011 Programs	5,026,978	5,026,978	4,900,000	4,600,000	19,553,956
2012 Programs	-	5,615,949	5,615,949	5,500,000	16,731,898
2013 Programs	-	-	7,238,049	7,238,049	14,476,097
2014 Programs	-	-	-	7,238,049	7,238,049
	5,026,978	10,642,927	17,753,998	24,576,097	58,000,000

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 16  
 17 As mentioned above, in the absence of details regarding 2015 CDM programs, NPEI has also  
 18 included an estimate of savings from 2015 initiatives in 2015 to be 5% of its four year target. This  
 19 equates to  $58,000,000 * 5\% = 2,900,000$  kWh.

20  
 21 In accordance with the Guidelines for Electricity Distributor Conservation and Demand  
 22 Management [EB-2012-0003], issued April 26, 2012, it is NPEI's understanding that as part of

1 this application, expected CDM savings in 2015 from 2011 - 2015 programs will need to be  
 2 established for LRAM variance account purposes. NPEI also understands that the OPA will  
 3 measure CDM results attributable to the four year targets on a net kWh savings.

4  
 5 Consistent with past practices, it is expected the full year net level of savings will be used for  
 6 LRAM calculations. Based on the information in Table 3-23 below, NPEI expects to achieve  
 7 26,708,291 net kWh savings in 2015 from the 2011 to 2015 CDM programs. Table 3-34 outlines  
 8 how the expected savings have been allocated to rate classes, based on the class proportions  
 9 from the final 2012 CDM results, which are 19.5% Residential, 22.5% General Service < 50 kW  
 10 and 58.0% General Service > 50 kW. The expected kW saving has also been provided for the  
 11 General Service > 50 kW class, using the 3 year average kW/KWh factor of 0.2644% from Table  
 12 3-24 below: 15,504,056 kWh \* 0.2644% = 40,998 kW.

13  
 14 **Table 3-23: CDM Net Savings Forecast 2011 to 2015**

5 Year 2011 to 2015 kWh Net Savings Forecast					
	2011	2012	2013	2014	2015
2011 Programs	5,026,978	5,026,978	4,900,000	4,600,000	4,318,367
2012 Programs	-	5,615,949	5,615,949	5,500,000	5,163,265
2013 Programs	-	-	7,238,049	7,238,049	7,088,609
2014 Programs	-	-	-	7,238,049	7,238,049
2015 Programs	-	-	-	-	2,900,000
	5,026,978	10,642,927	17,753,998	24,576,097	26,708,291

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 17 **Table 3-24: 2015 Expected Savings for LRAM Variance Accounts**

	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load	Total
2015 CDM net kWh	5,202,619	6,001,616	15,504,056	-	-	-	26,708,291
2015 CDM kW	-	-	40,998	-	-	-	40,998

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 19  
 20 Table 3-25 outlines how the classes have been adjusted to align the non-normalized forecast  
 21 with the weather normalized forecast and reflect the adjustments discussed above. The  
 22 calculations used to determine the amount for each class can be found in Appendix 3-1.

1 **Table 3-25: Alignment of Non-Weather Normal to Weather Normal Forecast for Energy**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Streetlights	Sentinel Lights	Unmetered Scattered Load	Total
<b>Non-Normalized Weather Billed Energy Forecast (kWh)</b>							
2014 Non-Normalized Bridge	411,649,947	123,963,294	667,180,301	7,411,072	262,521	2,231,402	1,212,698,537
2015 Non-Normalized Test	411,002,636	123,747,060	678,583,419	7,477,962	259,459	2,215,047	1,223,285,582
<b>Adjustment for Weather (kWh)</b>							
2014	(8,766,162)	(2,639,821)	(13,220,025)	-	-	-	(24,626,008)
2015	(10,143,411)	(3,054,037)	(15,582,973)	-	-	-	(28,780,422)
<b>CDM Adjustment (kWh)</b>							
2014	(704,965)	(813,230)	(2,100,829)	-	-	-	(3,619,024)
2015	(1,692,381)	(1,952,290)	(5,043,378)	-	-	-	(8,688,049)
<b>Weather Normalized Billed Energy Forecast (kWh)</b>							
2014 Normalized Bridge	402,178,821	120,510,242	651,859,447	7,411,072	262,521	2,231,402	1,184,453,504
2015 Normalized Test	399,166,843	118,740,733	657,957,068	7,477,962	259,459	2,215,047	1,185,817,112

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4 **Billed kW Load Forecast**

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6 For energy purchases, there are three rate classes that charge volumetric distribution on per kW  
 7 basis. These include General Service > 50 kW, Sentinel Lighting and Street Lighting. As a  
 8 result, the energy forecast for these classes needs to be converted to a kW basis for rate  
 9 setting purposes. The forecast of kW for these classes is based on a review of the historical  
 10 ratio of kW to kWhs and applying the average ratio to the forecasted kWh to produce the  
 11 required kW.

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13 Table 3-26 outlines the annualized demand units by applicable rate class.

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**Table 3-26: Historical Annual kW per Applicable Rate Class**

<b>Year</b>	<b>General Service &gt; 50 kW</b>	<b>Streetlights</b>	<b>Sentinel Lights</b>	<b>Total</b>
2003	1,573,551	17,588	968	1,592,107
2004	1,673,046	19,480	933	1,693,459
2005	1,719,941	19,789	892	1,740,622
2006	1,777,691	19,932	831	1,798,454
2007	1,884,479	20,188	825	1,905,492
2008	1,735,816	20,371	733	1,756,920
2009	1,753,191	20,319	695	1,774,205
2010	1,769,836	19,656	653	1,790,145
2011	1,793,543	20,391	679	1,814,614
2012	1,761,221	21,037	721	1,782,980
2013	1,721,554	20,809	716	1,743,079

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Table 3-27 illustrates the historical ratios of kW/kWh as well as the 11 year average ratio from 2003 to 2013, and the 3 year average ratio from 2011 to 2013. NPEI notes that the ratios of kW to kWh have changed over time, particularly in the General Service > 50 kW class. NPEI proposes to base the 2014 Bridge Year and 2015 Test Year forecast values for kW on the 3 year ratios, as this more accurately reflects current usage and demand patterns for NPEI's customers.

1

**Table 3-27: Historical kW/kWh Ratio per Applicable Rate Class**

Year	General Service > 50 kW	Streetlights	Sentinel Lights
<b>Ratio of kW to kWh</b>			
2003	0.2842%	0.2620%	0.3241%
2004	0.2796%	0.2772%	0.3118%
2005	0.2820%	0.2653%	0.2649%
2006	0.2957%	0.2420%	0.2620%
2007	0.3029%	0.2874%	0.2794%
2008	0.2866%	0.2715%	0.2556%
2009	0.2957%	0.2794%	0.2362%
2010	0.2896%	0.2667%	0.2225%
2011	0.2657%	0.2795%	0.2760%
2012	0.2652%	0.2870%	0.2695%
2013	0.2624%	0.2833%	0.2696%
3 Year Average	0.2644%	0.2833%	0.2717%
11 Year Average	0.2827%	0.2729%	0.2701%

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4 The 3 year average ratio was applied to the weather normalized billed energy forecast in Table  
 5 3-25 to provide the forecast of kW by rate class as shown below. Table 3-28 outlines the  
 6 forecast of kW for the applicable rate classes.

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**Table 3-28: Annual kW Forecast by Applicable Rate Class**

Year	General Service > 50 kW	Streetlights	Sentinel Lights	Total
<b>Predicted Bill kW</b>				
2014 Normalized Bridge	1,723,755	20,995	713	1,745,463
2015 Normalized Test	1,739,879	21,184	705	1,761,769

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11 Table 3-29 provides a summary of the billing determinants, by rate class that are used to  
 12 develop the proposed rates.

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**Table 3-29: Summary of Forecast for Energy**

	2011 Board Approved	2011 Actual	2012 Actual	2013 Actual	2014 Weather Normalized Bridge	2015 Weather Normalized Test
<b>Actual kWh Purchases</b>		1,266,311,662	1,260,789,451	1,250,000,080		
<b>Predicted kWh Purchases</b>	1,286,014,423	1,265,208,873	1,275,140,355	1,237,576,507	1,238,461,756	1,245,167,213
<b>% Difference</b>		-0.1%	1.1%	-1.0%		
<b>Purchased kWh</b>	1,286,014,423	1,266,311,662	1,260,789,451	1,250,000,080	1,238,461,756	1,245,167,213
<b>Distribution Losses</b>	(62,706,294)	(33,312,835)	(46,774,137)	(47,694,815)	(50,389,228)	(50,662,053)
<b>Manual CDM Adjustment</b>					(3,619,024)	(8,688,049)
<b>Billed kWh</b>	1,223,308,130	1,232,998,827	1,214,015,314	1,202,305,265	1,184,453,504	1,185,817,112
<b>By Class</b>						
<b>Residential</b>						
Customers	46,900	45,996	45,871	46,274	46,669	47,067
kWh	462,790,265	418,849,931	414,592,237	412,298,278	402,178,821	399,166,843
Usage per Customer	9,868	9,106	9,038	8,910	8,618	8,481
<b>General Service &lt; 50 kW</b>						
Customers	4,352	4,307	4,260	4,315	4,350	4,385
kWh	122,331,880	129,680,926	125,465,897	124,179,905	120,510,242	118,740,733
Usage per Customer	28,107	30,111	29,453	28,776	27,702	27,076
<b>General Service &gt; 50 kW</b>						
Customers	848	859	855	863	863	862
kWh	628,090,148	675,128,624	664,095,955	655,968,805	651,859,447	657,957,068
kW	1,818,411	1,793,543	1,761,221	1,721,554	1,723,755	1,739,879
Usage per Customer	740,379	786,394	776,553	760,337	755,685	762,866
<b>Sentinel Lights</b>						
Connections	560	424	343	337	320	303
kWh	292,817	246,192	267,435	265,619	262,521	259,459
kW	809	679	721	716	713	705
Usage per Connection	523	581	779	787	822	857
<b>Streetlighting</b>						
Connections	12,408	12,540	12,507	12,702	12,845	12,989
kWh	7,467,591	7,294,838	7,329,519	7,344,781	7,411,072	7,477,962
kW	20,107	20,391	21,037	20,809	20,995	21,184
Usage per Connection	602	582	586	578	577	576
<b>Unmetered Scattered Load</b>						
Connections	465	424	384	422	422	422
kWh	2,335,428	1,798,316	2,264,271	2,247,877	2,231,402	2,215,047
Usage per Connection	5,020	4,241	5,904	5,332	5,293	5,255
<b>Total of Above</b>						
Customer/Connections	65,533	64,549	64,220	64,913	65,467	66,028
kWh	1,223,308,130	1,232,998,827	1,214,015,314	1,202,305,265	1,184,453,504	1,185,817,112
kW from applicable classes	1,839,327	1,814,614	1,782,980	1,743,079	1,745,463	1,761,769

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1 **Rationale for the Proposed Regression Model**

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3 During the process of developing its weather normalized load forecasts for the 2014 Bridge  
4 Year and 2015 Test Year, NPEI tested several different regression models. In considering  
5 models that reflect various combinations of explanatory variables, it was NPEI's goal to select  
6 a regression model that displayed a high goodness-of-fit value (with emphasis on the Adjusted  
7 R-Squared) in which the explanatory variables were limited to those that were plausible in  
8 both sign and magnitude, and statistically significant. For the purposes of these regression  
9 analyses, NPEI defined an explanatory variable as being statistically significant if the absolute  
10 value of the t Stat is greater than 2.0 and the P-value is less than 0.05.

11

12 The first regression model that NPEI considered contained the following explanatory  
13 variables: Heating Degree Days, Cooling Degree Days, Ontario Real Monthly GDP%, Number  
14 of Days in the Month, CDM Activity, Spring/Fall Flag, Population and Number of Peak Hours  
15 in the Month. As discussed above, NPEI used 12 year averages for the values of Heating  
16 Degree Days and Cooling Degree Days in 2014 and 2015, as 12 years is consistent with the  
17 period used for the regression analysis (January 2002 to December 2013). The resulting  
18 forecast purchases for the 2014 Bridge Year and 2015 Test Year, before manual CDM  
19 adjustments, are 1,239.7 GWh and 1,246.3 GWh, respectively. However, NPEI notes that in  
20 this regression model, the Number of Peak Hours in the Month explanatory variable appears  
21 to be statistically insignificant (t Stat = 1.11).

22

23 Next, NPEI dropped the Number of Peak Hours variable from the linear regression analysis. In  
24 this version, 12 year average weather is also used. The resulting forecast purchases for the  
25 2014 Bridge Year and 2015 Test Year, before manual CDM adjustments, are 1,238.5 GWh  
26 and 1,245.2 GWh, respectively. All explanatory variables in this model appear to be  
27 statistically significant, and all regression coefficients are plausible in magnitude and sign.  
28 This is the regression model that NPEI proposes for its 2014 Bridge Year and 2015 Test Year  
29 weather normalized load forecast, and the discussion above is based on this version of the  
30 regression model.

1 Table 3-30 below shows the results for both of these models (including Peak Hours and  
2 excluding Peak hours) with the 12 year average weather proposed, as well as the results  
3 using weather based on a 10 year average and a 20 year trend, in accordance with the Filing  
4 Requirements.

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**Table 3-30 Summary of Regression Models Considered**

<b>Model Characteristics</b>	<b>Peak Hours Excluded</b>	<b>Peak Hours Included</b>
R Square	0.95	0.95
Adjusted R Square	0.94	0.94
F Test	347.11	304.38
MAPE (Monthly)	1.90%	1.90%
<b>Explanatory Variable Coefficients</b>		
Intercept	(211,475,540.34)	(214,752,535.31)
Heating Degree Days	23,655.35	23,738.91
Cooling Degree Days	192,326.59	192,658.72
Ontario Real GDP Monthly %	321,215.43	319,507.30
Number of Days in Month	2,930,932.03	2,817,953.34
CDM kWh Saved in Month	(5.31)	(5.35)
Spring Fall Flag	(5,190,218.41)	(5,168,325.00)
Population	1,320.71	1,335.75
Number of Peak Hours in the Month	n/a	14,730.68
<b>Explanatory Variable t Stats</b>		
Intercept	(6.68)	(6.76)
Heating Degree Days	15.13	15.17
Cooling Degree Days	25.12	25.17
Ontario Real GDP Monthly %	2.44	2.43
Number of Days in Month	10.82	9.74
CDM kWh Saved in Month	(7.26)	(7.30)
Spring Fall Flag	(8.99)	(8.95)
Population	3.83	3.88
Number of Peak Hours in the Month	n/a	1.11
<b>12 Year Average Weather</b>		
Predicted Purchases 2014 (GWh)	<b>1,238.46</b>	1,239.67
Predicted Purchases 2015(GWh)	<b>1,245.17</b>	1,246.30
<b>10 Year Average Weather</b>		
Predicted Purchases 2014 (GWh)	1,238.52	1,238.28
Predicted Purchases 2015(GWh)	1,245.23	1,244.91
<b>20 Year Trend Weather</b>		
Predicted Purchases 2014 (GWh)	1,243.41	1,243.17
Predicted Purchases 2015(GWh)	1,250.12	1,249.80

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5 Table 3-31 below shows the normalized Heating Degree Day and Cooling Degree Day values  
 6 based on a 12 Year Average, a 10 year Average and a 20 Year Trend.

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**Table 3-31 Summary of Normalized Weather Data**

		<b>Heating Degree Days</b>	<b>Cooling Degree Days</b>
12 Year Average (2002 to 2013)	Jan	625.69	-
	Feb	568.02	-
	Mar	501.29	-
	Apr	325.08	0.04
	May	173.88	9.13
	Jun	32.79	60.98
	Jul	0.89	143.48
	Aug	1.65	128.93
	Sep	30.45	47.37
	Oct	202.92	5.08
	Nov	361.23	-
	Dec	551.41	-
10 Year Average (2004 to 2013)	Jan	627.03	-
	Feb	569.82	-
	Mar	495.43	-
	Apr	318.85	0.05
	May	162.67	10.72
	Jun	28.01	63.24
	Jul	0.73	142.52
	Aug	1.98	124.86
	Sep	32.88	44.87
	Oct	195.51	4.95
	Nov	360.56	-
	Dec	553.96	-
20 Year Trend (2004 to 2013)	Jan	638.28	-
	Feb	558.90	-
	Mar	480.78	(0.25)
	Apr	320.68	(0.23)
	May	149.39	13.27
	Jun	29.84	63.02
	Jul	(0.43)	157.31
	Aug	0.93	136.65
	Sep	30.02	46.30
	Oct	190.37	5.39
	Nov	352.95	-
	Dec	556.28	-

3



File Number:EB-2014-0096

Exhibit: 3

Tab: 1

Schedule: 1

Date Filed:September 23, 2014

## Attachment 1 of 3

### Weather Normalization Excel file

**Niagara Peninsula Energy Weather Normal Load Forecast for 2015 Rate Application**

	2002 Actual	2003 Actual	2004 Actual	2005 Actual	2006 Actual	2007 Actual	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Weather Normal	2015 Weather Normal
<b>Actual kWh Purchases</b>	1,162,710,674	1,152,043,160	1,205,241,074	1,272,191,339	1,248,057,840	1,283,916,366	1,247,356,069	1,216,807,819	1,264,714,637	1,266,311,662	1,260,789,451	1,250,000,080		
<b>Predicted kWh Purchases with loss</b>	1,162,665,476	1,167,650,716	1,182,645,856	1,271,722,798	1,249,433,262	1,270,377,856	1,255,843,368	1,225,399,085	1,256,450,873	1,265,208,873	1,275,140,355	1,237,576,507	1,238,461,756	1,245,167,213
<b>% Difference</b>	0.0%	1.4%	-1.9%	0.0%	0.1%	-1.1%	0.7%	0.7%	-0.7%	-0.1%	1.1%	-1.0%		
<b>Predicted without loss</b>													1,187,175,763	1,193,603,540
<b>Loss</b>													51,285,993	51,563,673
<b>Loss Factor based on predicted kWh</b>												1250965044	0.043	0.043
												-964,965		
<b>Billed kWh Weather Normalized with CDM</b>	0	1,108,347,420	1,135,405,804	1,208,894,249	1,184,184,647	1,220,452,820	1,188,897,732	1,161,778,118	1,193,712,076	1,232,998,827	1,214,015,314	1,202,305,265	1,184,453,504	1,185,817,112
<b>Loss Factor</b>													1.0432	1.0432
<b>Loss</b>													51,285,993	51,563,673
<b>CDM Difference</b>													2,722,259	7,786,428
<b>By Class</b>														
<b>Residential</b>														
Customers	40,624	42,507	42,859	43,068	43,724	44,325	44,955	45,761	45,840	45,996	45,871	46,274	46,669	47,067
kWh	0	418,838,012	404,285,804	463,562,202	450,017,939	462,721,168	450,470,690	438,952,918	451,343,387	418,849,931	414,592,237	412,298,278	402,178,821	399,166,843
<b>GS&lt;50</b>														
Customers	4,171	3,982	4,033	4,437	4,438	4,339	4,260	4,257	4,357	4,307	4,260	4,315	4,350	4,385
kWh	0	126,366,945	122,937,633	125,194,926	122,020,708	125,994,115	122,663,804	119,930,976	121,294,614	129,680,926	125,465,897	124,179,905	120,510,242	118,740,733
<b>GS&gt;50</b>														
Customers	796	864	819	802	871	853	847	852	851	859	855	863	863	862
kWh	0	553,710,685	598,431,001	609,950,002	601,216,533	622,092,059	605,669,659	592,972,281	611,065,862	675,128,624	664,095,955	655,968,805	651,859,447	657,957,068
kW	1,529,263	1,573,551	1,673,046	1,719,941	1,777,691	1,884,479	1,735,816	1,753,191	1,769,836	1,793,543	1,761,221	1,721,554	1,723,755	1,739,879
<b>Large User</b>														
Customers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
kWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0
kW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Sentinels</b>														
Connections	582	582	602	522	594	569	564	566	417	369	343	337	320	303
kWh	0	298,685	299,222	336,743	317,191	295,243	286,832	294,273	293,544	246,192	267,435	265,619	262,521	259,459
kW	956	968	933	892	831	825	733	695	653	679	721	716	713	705
<b>Streetlights</b>														
Connections	11,157	11,358	11,588	11,752	11,807	11,933	11,986	12,136	12,334	12,540	12,507	12,702	12,845	12,989
kWh	0	6,713,622	7,027,058	7,458,446	8,236,754	7,023,291	7,504,236	7,271,510	7,368,898	7,294,838	7,329,519	7,344,781	7,411,072	7,477,962
kW	17,456	17,588	19,480	19,789	19,932	20,188	20,371	20,319	19,656	20,391	21,037	20,809	20,995	21,184
<b>USL</b>														
Connections	419	422	422	422	422	440	445	454	465	424	384	422	422	422
kWh	0	2,419,471	2,425,087	2,391,930	2,375,520	2,326,944	2,302,512	2,356,161	2,345,772	1,798,316	2,264,271	2,247,877	2,231,402	2,215,047
<b>Total of Above</b>														
Customer/Connections	57,749	59,715	60,323	61,003	61,856	62,459	63,057	64,026	64,264	64,494	64,220	64,913	65,467	66,028
kWh	0	1,108,347,420	1,135,405,804	1,208,894,249	1,184,184,647	1,220,452,820	1,188,897,732	1,161,778,118	1,193,712,076	1,232,998,827	1,214,015,314	1,202,305,265	1,184,453,504	1,185,817,112
kW from applicable classes	1,547,675	1,592,107	1,693,459	1,740,622	1,798,454	1,905,492	1,756,920	1,774,205	1,790,145	1,814,614	1,782,980	1,743,079	1,745,463	1,761,769
<b>Total from Model</b>														
Customer/Connections		59,715	60,323	61,003	61,856	62,459	63,057	64,026	64,264	64,494	64,220	64,913	65,467	66,028
kWh		1,108,347,420	1,135,405,804	1,208,894,249	1,184,184,647	1,220,452,820	1,188,897,732	1,161,778,118	1,193,712,076	1,232,998,827	1,214,015,314	1,202,305,265	1,184,453,504	1,185,817,112
kW from applicable classes		1,592,107	1,693,459	1,740,622	1,798,454	1,905,492	1,756,920	1,774,205	1,790,145	1,814,614	1,782,980	1,743,079	1,745,463	1,761,769
<b>Check should all be zero</b>														
Customer/Connections		0	0	0	0	0	0	0	0	0	0	0	0	0
kWh		0	0	0	0	0	0	0	0	0	0	0	0	0
kW from applicable classes		0	0	0	0	0	0	0	0	0	0	0	0	0
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		
Actual	1,163	1,152	1,205	1,272	1,248	1,284	1,247	1,217	1,265	1,266	1,261	1,250		
Predicted	1,163	1,168	1,183	1,272	1,249	1,270	1,256	1,225	1,256	1,265	1,275	1,238		

**Drivers of Differences 2015 over 2014 Predicted kWh**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2015 Predicted kWh	109,038,541	99,036,480	101,214,362	94,276,684	95,533,401	104,580,956	122,777,933	120,149,624	97,177,619	96,208,205	96,199,958	108,973,451	1,245,167,213
2014 Predicted kWh	109,590,615	99,458,924	101,420,362	94,266,240	95,306,514	104,137,624	122,118,157	119,273,405	96,084,955	94,899,097	94,674,406	107,231,456	1,238,461,756
Difference (kWh)	-552,074	-422,444	-206,000	10,444	226,888	443,332	659,776	876,220	1,092,663	1,309,107	1,525,551	1,741,995	6,705,457
<b>HDD</b>													
2015 value	626	568	501	325	174	33	1	2	30	203	361	551	3,375
2014 value	626	568	501	325	174	33	1	2	30	203	361	551	3,375
Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
Regression Coefficient	23,655	23,655	23,655	23,655	23,655	23,655	23,655	23,655	23,655	23,655	23,655	23,655	
Impact on forecast (kWh)	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>CDD</b>													
2015 value	0	0	0	0	9	61	143	129	47	5	0	0	395
2014 value	0	0	0	0	9	61	143	129	47	5	0	0	395
Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
Regression Coefficient	192,327	192,327	192,327	192,327	192,327	192,327	192,327	192,327	192,327	192,327	192,327	192,327	
Impact on forecast (kWh)	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>GDP</b>													
2015 value	150	150	150	151	151	151	151	152	152	152	153	153	1,815
2014 value	146	147	147	147	147	148	148	148	148	149	149	149	1,773
Difference	3	3	3	3	3	3	3	4	4	4	4	4	42
Regression Coefficient	321,215	321,215	321,215	321,215	321,215	321,215	321,215	321,215	321,215	321,215	321,215	321,215	
Impact on forecast (kWh)	1,084,395	1,090,459	1,096,523	1,102,586	1,108,650	1,114,714	1,120,777	1,126,841	1,132,905	1,138,968	1,145,032	1,151,096	13,412,946
<b># Days in Month</b>													
2015 value	31	28	31	30	31	30	31	31	30	31	30	31	365
2014 value	31	28	31	30	31	30	31	31	30	31	30	31	365
Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
Regression Coefficient	2,930,932	2,930,932	2,930,932	2,930,932	2,930,932	2,930,932	2,930,932	2,930,932	2,930,932	2,930,932	2,930,932	2,930,932	
Impact on forecast (kWh)	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>CDM kWh Saved</b>													
2015 value	2,569,725	2,569,980	2,570,488	2,570,997	2,571,505	2,572,014	2,572,522	2,573,031	2,573,540	2,574,048	2,574,557	2,575,065	30,867,473
2014 value	2,124,895	2,148,417	2,188,542	2,228,666	2,268,791	2,308,916	2,349,040	2,389,165	2,429,289	2,469,414	2,509,538	2,549,663	27,964,336
Difference	444,831	421,562	381,946	342,330	302,714	263,098	223,482	183,866	144,250	104,634	65,018	25,402	2,903,137
Regression Coefficient	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
Impact on forecast (kWh)	-2,362,268	-2,238,701	-2,028,321	-1,817,941	-1,607,561	-1,397,180	-1,186,800	-976,420	-766,039	-555,659	-345,279	-134,898	(15,417,067)
<b>Spring/Fall</b>													
2015 value	0	0	1	1	1	0	0	0	1	1	1	0	6
2014 value	0	0	1	1	1	0	0	0	1	1	1	0	6
Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
Regression Coefficient	-5,190,218	-5,190,218	-5,190,218	-5,190,218	-5,190,218	-5,190,218	-5,190,218	-5,190,218	-5,190,218	-5,190,218	-5,190,218	-5,190,218	
Impact on forecast (kWh)	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Population</b>													
2015 value	136,626	136,672	136,717	136,763	136,809	136,855	136,901	136,946	136,992	137,038	137,084	137,130	1,642,533
2014 value	136,076	136,122	136,168	136,214	136,259	136,305	136,351	136,397	136,443	136,488	136,534	136,580	1,635,938
Difference	550	550	550	550	550	550	550	550	550	550	550	550	6,595
Regression Coefficient	1,321	1,321	1,321	1,321	1,321	1,321	1,321	1,321	1,321	1,321	1,321	1,321	
Impact on forecast (kWh)	725,798	725,798	725,798	725,798	725,798	725,798	725,798	725,798	725,798	725,798	725,798	725,798	8,709,577
<b>Peak Hours</b>													
2015 value	320	304	368	320	320	352	336	336	336	320	336	368	4,016
2014 value	320	304	368	320	320	352	336	336	336	320	336	368	4,016
Difference	0	0	0	0	0	0	0	0	0	0	0	0	0
Regression Coefficient	0	0	0	0	0	0	0	0	0	0	0	0	
Impact on forecast (kWh)	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Impact on Forecast (kWh)</b>	-552,074	-422,444	-206,000	10,444	226,888	443,332	659,776	876,220	1,092,663	1,309,107	1,525,551	1,741,995	6,705,457

	<u>Purchased</u>	<u>Embedded</u> <u>Generation</u>	<u>Load Transfers</u>	<u>Total</u>	<u>Heating Degree</u> <u>Days</u>	<u>Cooling</u> <u>Degree Days</u>	<u>Ontario Real</u> <u>GDP Monthly %</u>	<u>Number of</u> <u>Days in Month</u>	<u>CDM kWh</u> <u>Saved in</u> <u>month</u>	<u>Spring Fall</u> <u>Flag</u>	<u>Population</u>	<u>Number of</u> <u>Peak Hours</u>	<u>CDM kWh</u> <u>Saved in month</u>	<u>Predicted</u> <u>Purchases</u>
Jan-96	0			0	719.20	0.00	94.72	31		0	119,961	352		85,253,160
Feb-96	0			0	648.20	0.00	94.80	29		0	120,043	336		77,847,160
Mar-96	0			0	618.50	0.00	94.89	31		1	120,124	336		77,951,661
Apr-96	0			0	360.60	0.00	94.97	30		1	120,206	336		69,055,459
May-96	0			0	240.40	3.20	95.06	31		1	120,288	352		69,893,931
Jun-96	0			0	37.30	21.90	95.14	30		0	120,369	320		71,080,817
Jul-96	0			0	2.60	72.10	95.23	31		0	120,451	352		82,981,221
Aug-96	0			0	0.40	115.40	95.32	31		0	120,533	336		91,392,464
Sep-96	0			0	56.00	34.80	95.40	30		1	120,615	320		69,220,596
Oct-96	0			0	228.30	1.40	95.49	31		1	120,696	352		69,939,228
Nov-96	0			0	468.90	0.00	95.57	30		1	120,778	320		72,566,133
Dec-96	0			0	496.20	0.00	95.66	31		0	120,860	320		81,468,717
Jan-97	0			0	606.30	0.00	96.01	31		0	120,948	352		84,303,279
Feb-97	0			0	503.80	0.00	96.37	28		0	121,036	320		73,316,340
Mar-97	0			0	500.50	0.00	96.73	31		1	121,124	304		77,071,809
Apr-97	0			0	320.90	0.00	97.08	30		1	121,212	352		70,123,755
May-97	0			0	259.30	0.00	97.44	31		0	121,300	336		71,829,322
Jun-97	0			0	39.40	64.40	97.81	30		1	121,388	336		81,504,863
Jul-97	0			0	9.70	94.10	98.17	31		0	121,476	352		89,677,993
Aug-97	0			0	9.00	58.50	98.53	31		0	121,564	320		83,047,701
Sep-97	0			0	48.70	18.30	98.90	30		1	121,652	336		68,367,666
Oct-97	0			0	221.50	2.10	99.26	31		1	121,740	352		72,504,512
Nov-97	0			0	384.90	0.00	99.63	30		1	121,828	304		73,269,374
Dec-97	0			0	490.00	0.00	100.00	31		0	121,916	336		84,111,536
Jan-98	0			0	524.90	0.00	100.39	31		0	122,004	336		85,179,468
Feb-98	0			0	462.90	0.00	100.79	28		0	122,092	320		75,162,895
Mar-98	0			0	462.30	5.50	101.18	31		1	122,180	352		80,052,428
Apr-98	0			0	258.90	0.00	101.58	30		1	122,268	336		71,496,053
May-98	0			0	107.60	16.80	101.98	31		1	122,357	320		74,323,370
Jun-98	0			0	47.60	92.20	102.38	30		0	122,445	352		89,909,614
Jul-98	0			0	0.00	127.80	102.78	31		0	122,533	352		98,806,738
Aug-98	0			0	0.00	135.60	103.18	31		0	122,621	320		100,552,751
Sep-98	0			0	14.10	64.00	103.59	30		1	122,709	336		79,240,932
Oct-98	0			0	157.00	0.30	104.00	31		1	122,797	336		73,547,895
Nov-98	0			0	340.50	0.00	104.40	30		1	122,885	336		75,147,419
Dec-98	0			0	466.20	0.00	104.81	31		0	122,973	336		86,489,959
Jan-99	0			0	671.90	0.00	105.45	31		0	123,061	320		91,675,983
Feb-99	0			0	502.70	0.00	106.09	28		0	123,149	320		79,202,055
Mar-99	0			0	517.70	0.00	106.73	31		1	123,237	368		83,482,057
Apr-99	0			0	312.50	0.00	107.38	30		1	123,325	336		76,020,892
May-99	0			0	137.30	14.10	108.03	31		1	123,413	320		77,844,313
Jun-99	0			0	17.70	72.60	108.68	30		0	123,501	352		88,851,890
Jul-99	0			0	0.20	184.10	109.34	31		0	123,589	336		113,140,905
Aug-99	0			0	1.60	91.00	110.00	31		0	123,677	336		95,597,334
Sep-99	0			0	25.20	59.60	110.67	30		1	123,765	336		82,325,599
Oct-99	0			0	201.00	1.00	111.34	31		1	123,853	320		78,476,303
Nov-99	0			0	322.10	0.00	112.01	30		1	123,941	352		78,550,510
Dec-99	0			0	516.00	0.00	112.69	31		0	124,029	336		91,592,546
Jan-00	0			0	662.50	0.00	113.21	31		0	124,117	320		95,340,615
Feb-00	0			0	542.50	0.00	113.73	29		0	124,205	336		86,923,433
Mar-00	0			0	426.90	0.00	114.25	31		1	124,293	368		85,144,612
Apr-00	0			0	337.10	0.00	114.77	30		1	124,381	304		80,374,293
May-00	0			0	149.20	0.00	115.30	31		1	124,469	352		79,146,022
Jun-00	0			0	44.80	33.10	115.83	30		0	124,557	352		85,588,115
Jul-00	0			0	0.20	83.70	116.36	31		0	124,645	320		97,482,941
Aug-00	0			0	2.80	109.10	116.90	31		0	124,733	352		102,717,523
Sep-00	0			0	60.30	50.30	117.43	30		1	124,821	320		84,936,522
Oct-00	0			0	196.60	0.00	117.97	31		1	124,910	336		81,707,214
Nov-00	0			0	376.80	0.00	118.52	30		1	124,998	352		83,329,335
Dec-00	0			0	628.60	0.00	119.06	31		0	125,086	304		97,698,061
Jan-01	0			0	621.50	0.00	119.23	31		0	125,174	352		97,701,793
Feb-01	0			0	530.30	0.00	119.40	28		0	125,262	320		86,923,394
Mar-01	0			0	520.50	0.00	119.58	31		1	125,350	352		90,465,995
Apr-01	0			0	322.80	0.00	119.75	30		1	125,438	320		83,030,326
May-01	0			0	129.40	2.20	119.92	31		1	125,526	352		81,981,439
Jun-01	0			0	27.70	61.00	120.10	30		0	125,614	336		93,315,868
Jul-01	0			0	1.80	91.00	120.27	31		0	125,702	336		101,576,092
Aug-01	0			0	0.00	0.00	120.45	31		0	125,790	352		84,204,042

SUMMARY OUTPUT

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Regression Sta

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Multiple R

R Square

Adjusted R Square

Standard Error

Observations

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ANOVA

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Regression

Residual

Total

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Intercept

Heating Degree Days

Cooling Degree Days

Ontario Real GDP Monthly %

Number of Days in Month

CDM kWh Saved in month

Spring Fall Flag

Population

	<u>Purchased</u>	<u>Embedded</u> <u>Generation</u>	<u>Load Transfers</u>	<u>Total</u>	<u>Heating Degree</u> <u>Days</u>	<u>Cooling</u> <u>Degree Days</u>	<u>Ontario Real</u> <u>GDP Monthly %</u>	<u>Number of</u> <u>Days in Month</u>	<u>CDM kWh</u> <u>Saved in</u> <u>month</u>	<u>Spring/Fall</u> <u>Flag</u>	<u>Population</u>	<u>Number of</u> <u>Peak Hours</u>	<u>CDM kWh</u> <u>Saved in month</u>	<u>Predicted</u> <u>Purchases</u>	SUMMARY OUTPUT
Sep-01	0			0	43.60	45.20	120.62	30		1	125,878	304		85,979,757	
Oct-01	0			0	184.90	3.80	120.80	31		1	125,966	352		84,463,280	
Nov-01	0			0	290.40	0.00	120.97	30		1	126,054	352		83,469,639	
Dec-01	0			0	455.00	0.00	121.15	31		0	126,144	304		95,659,675	
Jan-02	98,398,774			98,398,774	530.30	0.00	121.50	31	0	0	126,248	352		97,692,694	
Feb-02	87,515,454			87,515,454	492.30	0.00	121.86	28	0	0	126,351	320		88,253,106	
Mar-02	94,028,461			94,028,461	513.50	0.00	122.22	31	0	1	126,455	320		92,609,630	
Apr-02	86,184,466			86,184,466	314.10	0.00	122.59	30	0	1	126,558	352		85,214,616	
May-02	85,447,299			85,447,299	224.50	2.40	122.95	31	0	1	126,662	352		86,740,751	
Jun-02	95,651,673			95,651,673	39.30	54.80	123.31	30	0	0	126,765	320		94,950,462	
Jul-02	119,450,096			119,450,096	0.00	191.60	123.68	31	0	0	126,869	352		123,515,844	
Aug-02	114,483,163			114,483,163	0.00	155.00	124.04	31	0	0	126,972	336		116,730,864	
Sep-02	96,936,653			96,936,653	9.80	92.30	124.41	30	0	1	127,076	320		97,037,179	
Oct-02	90,917,731			90,917,731	234.60	11.40	124.78	31	0	1	127,179	352		89,981,481	
Nov-02	90,920,618			90,920,618	381.20	0.00	125.14	30	0	1	127,283	336		88,581,118	
Dec-02	102,776,286			102,776,286	567.20	0.00	125.51	31	0	0	127,386	320		101,357,731	
Jan-03	104,493,535			104,493,535	707.70	0.00	125.66	31	0	0	127,490	352		104,864,772	
Feb-03	96,011,347			96,011,347	625.70	0.00	125.81	28	0	0	127,593	320		94,315,757	
Mar-03	95,684,640			95,684,640	547.70	0.00	125.95	31	0	1	127,697	336		96,256,792	
Apr-03	86,343,957			86,343,957	398.30	0.00	126.10	30	0	1	127,800	336		89,975,379	
May-03	84,100,206			84,100,206	235.40	0.00	126.24	31	0	1	127,904	336		89,236,537	
Jun-03	90,485,413			90,485,413	74.10	44.60	126.39	30	0	0	128,007	336		96,441,719	
Jul-03	107,838,219			107,838,219	3.40	105.00	126.54	31	0	0	128,111	352		109,500,535	
Aug-03	111,720,633			111,720,633	0.00	143.50	126.68	31	0	0	128,215	320		117,008,526	
Sep-03	90,994,824			90,994,824	26.80	27.40	126.83	30	0	1	128,318	336		87,376,123	
Oct-03	90,574,201			90,574,201	245.30	0.00	126.98	31	0	1	128,422	352		90,389,955	
Nov-03	91,660,392			91,660,392	348.00	0.00	127.12	30	0	1	128,525	320		90,072,437	
Dec-03	102,135,791			102,135,791	510.10	0.00	127.27	31	0	0	128,629	336		102,212,184	
Jan-04	110,906,403			110,906,403	750.20	0.00	127.53	31	0	0	128,732	336		108,112,770	
Feb-04	98,773,310			98,773,310	578.90	0.00	127.80	29	0	0	128,836	320		98,419,855	
Mar-04	100,169,246			100,169,246	479.80	0.00	128.06	31	0	1	128,939	368		96,968,541	
Apr-04	89,485,333			89,485,333	332.50	0.50	128.32	30	0	1	129,043	336		90,870,798	
May-04	90,686,143			90,686,143	169.70	1.20	128.59	31	0	1	129,146	320		90,306,901	
Jun-04	96,517,444			96,517,444	45.60	26.30	128.85	30	0	0	129,250	352		94,679,765	
Jul-04	110,297,642			110,297,642	1.90	79.30	129.12	31	0	0	129,353	336		106,992,251	
Aug-04	109,063,695			109,063,695	1.80	85.00	129.38	31	0	0	129,457	336		108,308,306	
Sep-04	103,094,592			103,094,592	14.60	65.30	129.65	30	0	1	129,560	336		96,923,445	
Oct-04	93,329,246			93,329,246	196.40	2.60	129.92	31	0	1	129,664	320		92,318,553	
Nov-04	94,434,399			94,434,399	341.00	0.00	130.19	30	0	1	129,767	352		92,530,823	
Dec-04	108,483,621			108,483,621	566.70	0.00	130.45	31	0	0	129,871	336		106,213,850	
Jan-05	111,357,551			111,357,551	693.30	0.00	130.74	31	0	0	129,974	320	64,076	109,438,481	
Feb-05	97,354,644			97,354,644	582.00	0.00	131.03	28	0	0	130,078	320	64,076	98,242,916	
Mar-05	103,696,307			103,696,307	576.10	0.00	131.33	31	0	1	130,182	352	64,076	101,936,206	
Apr-05	91,002,648			91,002,648	345.10	0.00	131.62	30	0	1	130,285	336	64,076	93,771,375	
May-05	90,914,555			90,914,555	215.30	0.00	131.91	31	0	1	130,389	336	64,076	93,862,538	
Jun-05	117,110,314			117,110,314	10.40	107.80	132.20	30	0	0	130,492	352	64,076	112,238,553	
Jul-05	130,492,623			130,492,623	0.00	183.50	132.50	31	0	0	130,596	320	64,076	129,713,705	
Aug-05	125,304,430			125,304,430	0.00	165.70	132.79	31	0	0	130,699	352	64,076	126,521,615	
Sep-05	103,515,709			103,515,709	7.30	76.60	133.09	30	0	1	130,803	336	64,076	101,668,383	
Oct-05	95,683,703			95,683,703	216.60	13.40	133.38	31	0	1	130,906	320	64,076	97,627,082	
Nov-05	95,832,424			95,832,424	369.30	0.00	133.68	30	0	1	131,010	352	64,076	95,963,100	
Dec-05	109,926,431			109,926,431	640.80	0.00	133.98	31	0	0	131,113	320	64,076	110,738,844	
Jan-06	105,189,786			105,189,786	520.40	0.00	134.25	31	13,498	0	131,217	336	348,241	108,044,434	
Feb-06	97,673,987			97,673,987	564.70	0.00	134.53	28	40,493	0	131,320	320	348,241	100,381,767	
Mar-06	102,138,407			102,138,407	488.70	0.00	134.81	31	67,488	1	131,424	368	348,241	102,268,919	
Apr-06	89,654,385			89,654,385	296.70	0.00	135.08	30	94,484	1	131,527	304	348,241	94,878,724	
May-06	96,375,371			96,375,371	135.30	29.20	135.36	31	121,479	1	131,631	352	348,241	99,690,366	
Jun-06	106,149,796			106,149,796	15.90	65.60	135.64	30	148,474	0	131,734	352	348,241	106,208,823	
Jul-06	129,944,898			129,944,898	0.60	166.80	135.92	31	175,470	0	131,838	320	348,241	128,324,395	
Aug-06	120,333,539			120,333,539	1.40	103.80	136.20	31	202,465	0	131,941	352	348,241	116,310,045	
Sep-06	95,914,535			95,914,535	45.90	17.00	136.48	30	229,460	1	132,045	320	348,241	92,631,096	
Oct-06	99,436,287			99,436,287	234.40	0.40	136.76	31	256,456	1	132,149	336	348,241	96,912,111	
Nov-06	98,699,343			98,699,343	341.90	0.00	137.04	30	283,451	1	132,252	352	348,241	96,531,056	
Dec-06	106,547,506			106,547,506	445.20	0.00	137.33	31	296,949	0	132,356	304	348,241	107,251,527	
Jan-07	110,076,804			110,076,804	578.00	0.00	137.57	31	308,453	0	132,252	352	655,465	110,275,202	
Feb-07	106,214,903			106,214,903	657.80	0.00	137.82	28	331,461	0	132,356	320	655,465	103,464,856	
Mar-07	105,901,314			105,901,314	515.50	0.00	138.07	31	354,470	1	132,400	352	655,465	103,718,162	
Apr-07	96,871,140			96,871,140	362.10	0.00	138.33	30	377,478	1	132,445	320	655,465	97,175,531	

CDM kWh

	<u>Purchased</u>	<u>Embedded Generation</u>	<u>Load Transfers</u>	<u>Total</u>	<u>Heating Degree Days</u>	<u>Cooling Degree Days</u>	<u>Ontario Real GDP Monthly %</u>	<u>Number of Days in Month</u>	<u>Saved in month</u>	<u>Spring Fall Flag</u>	<u>Population</u>	<u>Number of Peak Hours</u>	<u>CDM kWh Saved in month</u>	<u>Predicted Purchases</u>	SUMMARY OUTPUT
May-07	96,387,835			96,387,835	157.90	13.60	138.58	31	400,487	1	132,489	352	655,465	97,908,860	
Jun-07	113,036,516			113,036,516	10.90	81.70	138.83	30	423,495	0	132,533	336	655,465	109,805,575	
Jul-07	116,239,482			116,239,482	0.00	109.00	139.08	31	446,504	0	132,578	336	655,465	117,746,649	
Aug-07	124,879,950			124,879,950	6.80	142.50	139.33	31	469,512	0	132,622	352	655,465	124,368,063	
Sep-07	104,023,176			104,023,176	19.20	54.70	139.59	30	492,521	1	132,667	304	655,465	99,671,729	
Oct-07	99,226,202			99,226,202	103.00	20.60	139.84	31	515,529	1	132,711	352	655,465	98,044,554	
Nov-07	100,079,144			100,079,144	385.40	0.00	140.09	30	538,538	1	132,756	352	655,465	97,850,024	
Dec-07	110,979,900			110,979,900	567.10	0.00	140.35	31	550,042	0	132,800	304	655,465	110,348,651	
Jan-08	109,593,071	(82,212)		109,510,859	562.40	0.00	140.30	31	555,158	0	132,845	352	906,713	110,253,962	
Feb-08	104,778,875	(82,212)		104,696,663	599.90	0.00	140.25	29	565,390	0	132,889	320	906,713	105,268,501	
Mar-08	105,424,609	(82,212)		105,342,397	548.00	0.00	140.21	31	575,622	1	132,934	304	906,713	104,701,766	
Apr-08	86,811,986	(82,212)		86,729,774	303.30	0.00	140.16	30	585,854	1	132,978	352	906,713	95,971,708	
May-08	95,673,539	(82,212)		95,591,327	192.70	0.00	140.11	31	596,086	1	133,022	336	906,713	96,275,702	
Jun-08	106,441,284	(82,212)		106,359,072	30.40	62.50	140.07	30	606,318	0	133,067	336	906,713	106,705,484	
Jul-08	120,363,654	(82,212)		120,281,441	0.00	115.40	140.02	31	616,550	0	133,111	352	906,713	119,080,723	
Aug-08	112,977,083	(82,212)		112,894,871	4.50	85.70	139.97	31	626,782	0	133,156	320	906,713	113,464,430	
Sep-08	101,476,765	(82,212)		101,394,552	38.60	39.60	139.93	30	637,014	1	133,200	336	906,713	97,273,034	
Oct-08	95,543,325	(82,212)		95,461,113	207.10	0.40	139.88	31	647,246	1	133,245	352	906,713	96,640,057	
Nov-08	97,619,273	(82,212)		97,537,061	420.90	0.00	139.83	30	657,478	1	133,289	304	906,713	98,679,080	
Dec-08	111,639,154	(82,212)		111,556,941	620.10	0.00	139.79	31	662,594	0	133,334	336	906,713	111,528,922	
Jan-09	117,706,103	(61,304)		117,644,799	723.90	0.00	139.39	31	674,484	0	133,378	336	912,482	113,852,701	
Feb-09	97,637,232	(61,304)		97,575,928	537.00	0.00	138.99	28	698,263	0	133,423	304	912,482	100,444,296	
Mar-09	102,033,201	(61,304)		101,971,897	509.10	0.00	138.60	31	722,042	1	133,467	352	912,482	103,192,824	
Apr-09	92,234,007	(61,304)		92,172,703	315.40	0.00	138.21	30	745,822	1	133,511	320	912,482	95,486,144	
May-09	90,740,353	(61,304)		90,679,049	185.90	0.00	137.82	31	769,601	1	133,556	320	912,482	95,160,359	
Jun-09	97,871,861	(61,304)		97,810,557	66.80	33.00	137.43	30	793,380	0	133,600	352	912,482	100,756,078	
Jul-09	106,379,010	(61,304)		106,317,706	0.60	56.80	137.04	31	817,160	0	133,645	352	912,482	106,505,760	
Aug-09	118,375,480	(61,304)		118,314,176	3.90	118.80	136.65	31	840,939	0	133,689	320	912,482	118,315,788	
Sep-09	96,821,587	(61,304)		96,760,283	32.40	30.70	136.26	30	864,718	1	133,734	336	912,482	93,732,912	
Oct-09	93,959,689	(61,304)		93,898,385	241.20	0.00	135.87	31	888,498	1	133,778	336	912,482	95,507,077	
Nov-09	93,794,433	(61,304)		93,733,129	320.80	0.00	135.49	30	912,277	1	133,823	320	912,482	94,267,884	
Dec-09	109,990,512	(61,304)		109,929,208	570.89	0.00	135.11	31	924,167	0	133,867	352	912,482	108,177,264	
Jan-10	112,413,953	411,293	(96,502)	112,728,743	653.30	0.00	135.41	31	927,755	0	133,912	320	1,109,507	110,264,006	
Feb-10	98,822,728	532,219	(96,502)	99,258,445	551.10	0.00	135.71	28	934,931	0	133,956	304	1,109,507	99,172,103	
Mar-10	99,590,880	545,833	(96,502)	100,040,210	434.70	0.00	136.02	31	942,107	1	134,000	368	1,109,507	100,139,889	
Apr-10	88,866,064	587,674	(96,502)	89,352,236	253.20	0.00	136.33	30	949,284	1	134,045	320	1,109,507	93,034,422	
May-10	97,708,833	438,525	(96,502)	98,050,856	129.40	22.40	136.63	31	956,460	1	134,089	320	1,109,507	97,464,069	
Jun-10	106,489,650	575,982	(96,502)	106,969,130	15.00	60.60	136.94	30	963,636	0	134,134	352	1,109,507	104,483,413	
Jul-10	129,819,711	468,792	(96,502)	130,192,001	1.90	174.60	137.25	31	970,813	0	134,178	336	1,109,507	129,149,267	
Aug-10	126,064,295	467,603	(96,502)	125,435,396	1.40	145.70	137.56	31	977,989	0	134,223	336	1,109,507	123,699,000	
Sep-10	98,983,964	627,245	(96,502)	99,514,707	54.40	40.20	137.87	30	985,165	1	134,267	336	1,109,507	96,661,149	
Oct-10	93,865,161	384,107	(96,502)	94,152,765	218.20	0.50	138.18	31	992,342	1	134,312	320	1,109,507	95,951,707	
Nov-10	96,656,392	560,522	(96,502)	97,120,412	346.60	0.00	138.49	30	999,518	1	134,356	336	1,109,507	96,082,428	
Dec-10	111,304,958	686,277	(96,502)	111,894,733	600.50	0.00	138.80	31	1,003,106	0	134,401	368	1,109,507	110,349,420	
Jan-11	113,431,520	490,789	(92,424)	113,829,885	678.00	0.00	139.24	31	1,014,757	0	134,445	320	1,169,147	112,321,926	
Feb-11	101,615,469	597,207	(92,424)	102,120,252	578.50	0.00	139.45	28	1,038,058	0	134,490	304	1,169,147	101,177,386	
Mar-11	105,339,679	1,602,527	(92,424)	106,849,783	527.00	0.00	139.66	31	1,061,359	1	134,534	368	1,169,147	103,563,676	
Apr-11	93,360,769	818,684	(92,424)	94,087,029	342.60	0.00	139.87	30	1,084,661	1	134,578	320	1,169,147	96,272,661	
May-11	94,535,391	868,682	(92,424)	95,311,649	187.10	4.10	140.08	31	1,107,962	1	134,623	320	1,169,147	96,315,689	
Jun-11	103,622,683	951,129	(92,424)	104,481,388	21.90	41.80	140.29	30	1,131,263	0	134,667	352	1,169,147	101,919,787	
Jul-11	131,926,638	481,410	(92,424)	132,315,624	0.00	196.90	140.49	31	1,154,564	0	134,712	336	1,169,147	134,164,484	
Aug-11	120,223,938	847,595	(92,424)	120,979,110	0.00	146.30	140.70	31	1,177,866	0	134,756	336	1,169,147	124,434,721	
Sep-11	100,218,739	1,330,377	(92,424)	101,456,692	26.90	39.90	140.91	30	1,201,167	1	134,801	336	1,169,147	96,488,314	
Oct-11	94,403,706	890,902	(92,424)	95,202,185	184.90	4.20	141.12	31	1,224,468	1	134,845	320	1,169,147	96,292,694	
Nov-11	93,722,005	809,920	(92,424)	94,439,501	284.90	0.00	141.33	30	1,247,769	1	134,890	336	1,169,147	94,921,488	
Dec-11	104,372,807	958,180	(92,424)	105,238,563	463.70	0.00	141.54	31	1,259,420	0	134,934	368	1,169,147	107,336,048	
Jan-12	108,352,391	950,033	(78,846)	109,223,578	554.40	0.00	141.73	31	1,276,419	0	134,979	320	0	109,510,645	
Feb-12	98,705,242	947,209	(78,846)	99,573,605	482.40	0.00	141.91	29	1,310,418	0	135,023	304	0	101,884,379	
Mar-12	96,296,941	722,234	(78,846)	96,940,329	366.70	0.00	142.10	31	1,344,417	1	135,069	368	0	99,759,652	
Apr-12	89,872,581	601,702	(78,846)	90,395,437	296.30	0.00	142.29	30	1,378,416	1	135,115	320	0	95,103,935	
May-12	98,707,869	1,571,841	(78,846)	100,200,864	99.50	22.40	142.48	31	1,412,414	1	135,160	320	0	97,628,162	
Jun-12	109,390,923	1,115,019	(78,846)	110,427,096	18.90	105.60	142.67	30	1,446,413	0	135,206	352	0	113,922,951	
Jul-12	133,058,609	1,039,699	(78,846)	134,019,462	0.00	203.50	142.86	31	1,480,412	0	135,252	336	0	135,176,122	
Aug-12	121,123,046	1,093,336	(78,846)	122,137,537	0.00	148.70	143.05	31	1,514,411	0	135,298	336	0	124,577,176	
Sep-12	99,680,085	646,474	(78,846)	100,247,713	37.90	50.30	143.23	30	1,548,409	1	135,344	336	0	98,368,179	
Oct-12	94,333,164	944,121	(78,846)	95,198,440	191.90	2.60	143.42	31	1,582,408	1	135,389	320	0	95,708,608	
Nov-12	96,179,067	931,868	(78,846)	97,032,089	381.90	0.00	143.61	30	1,616,407	1	135,435	336	0	96,712,694	
Dec-12	104,482,420	989,725	(78,846)	105,393,299	463.20	0.00	143.80	31	1,633,406	0	135,481	368	0	106,787,851	

CDM kWh

	<u>Purchased</u>	<u>Embedded Generation</u>	<u>Load Transfers</u>	<u>Total</u>	<u>Heating Degree Days</u>	<u>Cooling Degree Days</u>	<u>Ontario Real GDP Monthly %</u>	<u>Number of Days in Month</u>	<u>Saved in month</u>	<u>Spring Fall Flag</u>	<u>Population</u>	<u>Number of Peak Hours</u>	<u>CDM kWh Saved in month</u>	<u>Predicted Purchases</u>	SUMMARY OUTPUT
Jan-13	109,467,098	930,414	(80,414)	110,317,098	556.40	0.00	143.98	31	1,655,904	0	135,527	320	0	108,991,277	
Feb-13	98,965,962	906,712	(80,414)	99,792,260	565.90	0.00	144.16	28	1,700,899	0	135,573	304	0	100,302,482	
Mar-13	102,422,656	894,061	(80,414)	103,236,304	508.70	0.00	144.34	31	1,745,895	1	135,618	368	0	102,431,249	
Apr-13	92,083,367	1,022,778	(80,414)	93,025,731	341.30	0.00	144.52	30	1,790,890	1	135,664	320	0	95,419,687	
May-13	95,266,526	1,234,580	(80,414)	96,420,692	153.90	14.30	144.70	31	1,835,885	1	135,710	320	0	96,547,152	
Jun-13	101,746,391	1,118,148	(80,414)	102,784,126	44.30	47.50	144.88	30	1,880,881	0	135,756	352	0	102,478,331	
Jul-13	123,815,621	1,104,432	(80,414)	124,839,640	2.30	139.40	145.06	31	1,925,876	0	135,802	336	0	121,969,826	
Aug-13	114,328,198	1,270,351	(80,414)	115,518,135	0.00	106.40	145.24	31	1,970,871	0	135,847	336	0	115,447,917	
Sep-13	96,921,113	1,399,910	(80,414)	98,240,610	51.60	34.40	145.42	30	2,015,867	1	135,893	336	0	94,579,143	
Oct-13	94,790,916	1,226,455	(80,414)	95,936,957	161.40	4.80	145.60	31	2,060,862	1	135,939	320	0	94,293,840	
Nov-13	98,272,590	1,105,762	(80,414)	99,297,938	412.90	0.00	145.78	30	2,105,857	1	135,985	336	0	96,268,335	
Dec-13	109,815,032	855,971	(80,414)	110,590,590	601.40	0.00	145.96	31	2,128,355	0	136,031	368	0	108,847,267	
Jan-14	117,246,823	771,851		118,018,674	625.69	0.00	146.24	31	2,124,895	0	136,076	320	0	109,590,615	
Feb-14	101,962,544	811,223		102,773,767	568.02	0.00	146.52	28	2,148,417	0	136,122	304	0	99,458,924	
Mar-14	106,897,420	920,445		107,817,865	501.29	0.00	146.80	31	2,188,542	1	136,168	368	0	101,420,362	
Apr-14	88,321,885	1,137,316		89,459,201	325.08	0.04	147.08	30	2,228,666	1	136,214	320	0	94,266,240	
May-14	0			0	173.88	9.13	147.36	31	2,268,791	1	136,259	320	0	95,306,514	
Jun-14	0			0	32.79	60.98	147.64	30	2,308,916	0	136,305	352	0	104,137,624	
Jul-14	0			0	0.89	143.48	147.92	31	2,349,040	0	136,351	336	0	122,118,157	
Aug-14	0			0	1.65	128.93	148.20	31	2,389,165	0	136,397	336	0	119,273,405	
Sep-14	0			0	30.45	47.37	148.48	30	2,429,289	1	136,443	336	0	96,084,955	
Oct-14	0			0	202.92	5.08	148.76	31	2,469,414	1	136,488	320	0	94,899,097	
Nov-14	0			0	361.23	0.00	149.04	30	2,509,538	1	136,534	336	0	94,674,406	
Dec-14	0			0	551.41	0.00	149.32	31	2,549,663	0	136,580	368	0	107,231,456	
Jan-15	0			0	625.69	0.00	149.61	31	2,569,725	0	136,626	320	0	109,038,541	
Feb-15	0			0	568.02	0.00	149.91	28	2,569,980	0	136,672	304	0	99,036,480	
Mar-15	0			0	501.29	0.00	150.21	31	2,570,488	1	136,717	368	0	101,214,362	
Apr-15	0			0	325.08	0.04	150.51	30	2,570,997	1	136,763	320	0	94,276,684	
May-15	0			0	173.88	9.13	150.81	31	2,571,505	1	136,809	320	0	95,533,401	
Jun-15	0			0	32.79	60.98	151.11	30	2,572,014	0	136,855	352	0	104,580,956	
Jul-15	0			0	0.89	143.48	151.41	31	2,572,522	0	136,901	336	0	122,777,933	
Aug-15	0			0	1.65	128.93	151.70	31	2,573,031	0	136,946	336	0	120,149,624	
Sep-15	0			0	30.45	47.37	152.00	30	2,573,540	1	136,992	336	0	97,177,619	
Oct-15	0			0	202.92	5.08	152.30	31	2,574,048	1	137,038	320	0	96,208,205	
Nov-15	0			0	361.23	0.00	152.60	30	2,574,557	1	137,084	336	0	96,199,958	
Dec-15	0			0	551.41	0.00	152.90	31	2,575,065	0	137,130	368	0	108,973,451	

Weather Normal

23,307,352,587

1996	0	0	0	0										918,650,549
1997	0	0	0	0										929,128,148
1998	0	0	0	0										989,909,522
1999	0	0	0	0										1,036,760,387
2000	0	0	0	0										1,060,388,686
2001	0	0	0	0										1,068,771,300
2002	1,162,710,674	0	0	1,162,710,674										1,162,665,476
2003	1,152,043,160	0	0	1,152,043,160										1,167,650,716
2004	1,205,241,074	0	0	1,205,241,074										1,182,645,856
2005	1,272,191,339	0	0	1,272,191,339										1,271,722,798
2006	1,248,057,840	0	0	1,248,057,840										1,249,433,262
2007	1,283,916,366	0	0	1,283,916,366										1,270,377,856
2008	1,248,342,618	0	-986,549	1,247,356,069										1,255,843,368
2009	1,217,543,467	0	-735,648	1,216,807,819										1,225,399,085
2010	1,259,586,591	6,286,072	-1,158,026	1,264,714,637										1,256,450,873
2011	1,256,773,343	10,647,402	-1,109,083	1,266,311,662										1,265,208,873
2012	1,250,182,338	11,553,261	-946,148	1,260,789,451										1,275,140,355
2013	1,237,895,470	13,069,574	-964,965	1,250,000,080										1,237,576,507
2014	414,428,671	3,640,835	0	418,069,506										1,238,461,756
2015	0	0	0	0										1,245,167,213

Total to 2013 14,794,484,281 41,556,309 -5,900,419 14,830,140,171

14,820,115,026

23,307,352,587

tistics

0.973136554  
0.946994753  
0.944266541  
2525998.944  
144

<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
7	1.55036E+16	2.21481E+15	347.1119572	1.9172E-83
136	8.67771E+14	6.38067E+12		
143	1.63714E+16			

<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
-211475540.3	31669469	-6.677584028	5.68104E-10	-274103840	-148847240.6	-274103840	-148847241
23655.34661	1563.834565	15.12650195	6.22069E-31	20562.76871	26747.9245	20562.76871	26747.9245
192326.5874	7655.588226	25.1223788	6.10206E-53	177187.1964	207465.9784	177187.1964	207465.9784
321215.426	131593.1334	2.440974067	0.015933479	60982.00691	581448.845	60982.00691	581448.845
2930932.027	270901.276	10.81918871	4.57352E-20	2395208.289	3466655.765	2395208.289	3466655.765
-5.310486186	0.731738422	-7.257355942	2.73298E-11	-6.757543388	-3.863428983	-6.757543388	-3.86342898
-5190218.41	577566.5042	-8.98635633	1.89855E-15	-6332391.275	-4048045.546	-6332391.275	-4048045.55
1320.705151	344.4990482	3.833697531	0.00019226	639.4373453	2001.972956	639.4373453	2001.972956







	<u>Purchases</u>	<u>Modeled Purchases</u>	<u>Difference</u>	<u>% Difference</u>	<u>Loss Factor</u>	<u>Total Billed</u>	<u>Residential</u>	<u>GS&lt;50</u>	<u>GS&gt;50</u>	<u>Large User</u>	<u>Sentinels</u>	<u>Streetlights</u>	<u>USL</u>
Weather Normal Projection													
1996	0	918,650,549	918,650,549										
1997	0	929,128,148	929,128,148										
1998	0	989,909,522	989,909,522										
1999	0	1,036,760,387	1,036,760,387										
2000	0	1,060,388,686	1,060,388,686										
2001	0	1,068,771,300	1,068,771,300										
2002	1,162,710,674	1,162,665,476	(45,198)	0.0%		0	0	0	0	0	0	0	0
2003	1,152,043,160	1,167,650,716	15,607,556	1.4%	1.0394	1,108,347,420	418,838,012	126,366,945	553,710,685	0	298,685	6,713,622	2,419,471
2004	1,205,241,074	1,182,645,856	(22,595,217)	-1.9%	1.0615	1,135,405,804	404,285,804	122,937,633	598,431,001	0	299,222	7,027,058	2,425,087
2005	1,272,191,339	1,271,722,798	(468,541)	0.0%	1.0524	1,208,894,249	463,562,202	125,194,926	609,950,002	0	336,743	7,458,446	2,391,930
2006	1,248,057,840	1,249,433,262	1,375,422	0.1%	1.0539	1,184,184,647	450,017,939	122,020,708	601,216,533	0	317,191	8,236,754	2,375,520
2007	1,283,916,366	1,270,377,856	(13,538,510)	-1.1%	1.0520	1,220,452,820	462,721,168	125,994,115	622,092,059	0	295,243	7,023,291	2,326,944
2008	1,247,356,069	1,255,843,368	8,487,299	0.7%	1.0492	1,188,897,732	450,470,690	122,663,804	605,669,659	0	286,832	7,504,236	2,302,512
2009	1,216,807,819	1,225,399,085	8,591,266	0.7%	1.0474	1,161,778,118	438,952,918	119,930,976	592,972,281	0	294,273	7,271,510	2,356,161
2010	1,264,714,637	1,256,450,873	(8,263,764)	-0.7%	1.0595	1,193,712,076	451,343,387	121,294,614	611,065,862	0	293,544	7,368,898	2,345,772
2011	1,266,311,662	1,265,208,873	(1,102,789)	-0.1%	1.0270	1,232,998,827	418,849,931	129,680,926	675,128,624	0	246,192	7,294,838	1,798,316
2012	1,260,789,451	1,275,140,355	14,350,904	1.1%	1.0385	1,214,015,314	414,592,237	125,465,897	664,095,955	0	267,435	7,329,519	2,264,271
2013	1,250,000,080	1,237,576,507	(12,423,573)	-1.0%	1.0397	1,202,305,265	412,298,278	124,179,905	655,968,805	0	265,619	7,344,781	2,247,877
2014	418,069,506	1,238,461,756				1,188,072,528							
2015	0	1,245,167,213				1,194,505,161							
						4,785,932,566	1,365,730,448	6,790,301,466	0	3,200,978	80,572,954	25,253,860	
						37%	10%	52%	0%	0%	1%	0%	

Before Supply Facility Loss Factor of 1.0045

5 year average	1.0424
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**Average**

2005 to 2006	-1.90%	-2.04%	-2.92%	-2.54%	-1.43%	-5.81%	10.44%	-0.69%
2006 to 2007	2.87%	3.06%	2.82%	3.26%	3.47%	-6.92%	-14.73%	-2.04%
2007 to 2008	-2.85%	-2.59%	-2.65%	-2.64%	-2.64%	-2.85%	6.85%	-1.05%
2008 to 2009	-2.45%	-2.28%	-2.56%	-2.23%	-2.10%	2.59%	-3.10%	2.33%
2009 to 2010	3.94%	2.75%	2.82%	1.14%	3.05%	-0.25%	1.34%	-0.44%
2010 to 2011	0.13%	3.29%	-7.20%	6.91%	10.48%	-16.13%	-1.01%	-23.34%
2011 to 2012	-0.44%	-1.54%	-1.02%	-3.25%	-1.63%	8.63%	0.48%	25.91%
2012 to 2013	-0.86%	-0.96%	-0.55%	-1.02%	-1.22%	-0.68%	0.21%	-0.72%

**Usage Per Customer**

2003			9,853	31,735	640,869	0	513	591	5,733		
2004			9,433	30,483	730,685	0	497	606	5,747		
2005			10,763	28,216	760,536	0	645	635	5,668		
2006			10,292	27,495	690,260	0	534	698	5,629		
2007			10,439	29,038	729,299	0	519	589	5,289		
2008			10,020	28,794	715,076	0	508	626	5,175		
2009			9,592	28,175	695,793	0	520	599	5,190		
2010			9,846	27,840	718,056	0	704	597	5,045		
2011			9,106	30,111	786,394	0	667	582	4,241		
2012			9,038	29,453	776,553	0	779	586	5,904		
2013			8,910	28,776	760,337	0	787	578	5,332		
2014			8,821	28,495	773,446	0	822	577	5,293		
2015			8,732	28,218	786,781	0	857	576	5,255		
1999											
2000											
2001											
2002											
2003											
2004					0.9573	0.9606	1.1401	0.0000	0.9685	1.0259	1.0023
2005					1.1411	0.9256	1.0409	0.0000	1.2979	1.0466	0.9863
2006					0.9562	0.9744	0.9076	0.0000	0.8278	1.0992	0.9931
2007					1.0143	1.0561	1.0566	0.0000	0.9717	0.8437	0.9395
2008					0.9599	0.9916	0.9805	0.0000	0.9797	1.0638	0.9785
2009					0.9573	0.9785	0.9730	0.0000	1.0237	0.9570	1.0029
2010					1.0265	0.9881	1.0320	0.0000	1.3528	0.9971	0.9720
2011					0.9248	1.0816	1.0952	0.0000	0.9476	0.9737	0.8406

	2012				0.9925	0.9781	0.9875	0.0000	1.1681	1.0074	1.3921	
	2013				0.9858	0.9770	0.9791	0.0000	1.0102	0.9867	0.9031	
Used					0.9900	0.9903	1.0172	0.0000	1.0437	0.9978	0.9928	
Geomean					0.9900	0.9903	1.0172	0.0000	1.0437	0.9978	0.9928	
<b>Non Weather Corrected Forecast</b>												
	2014	1,212,698,537	411,649,947	123,963,294	667,180,301	0	262,521	7,411,072	2,231,402	1,212,698,537		Total
	2015	1,223,285,582	411,002,636	123,747,060	678,583,419	0	259,459	7,477,962	2,215,047	1,223,285,582		
<b>Weather Corrected Forecast</b>												
	2014	1,188,072,528	402,883,785	121,323,472	653,960,276	0	262,521	7,411,072	2,231,402	1,188,072,528		Total
	2015	1,194,505,161	400,859,224	120,693,023	663,000,445	0	259,459	7,477,962	2,215,047	1,194,505,161		
<b>Weather Normalization Percentage from 2006 Hydro One Study</b>												
% Weather Sensitive					93.50%	93.50%	87.00%	0.00%	0.00%	0.00%		Total
	2014	(24,626,008)	384,892,701	115,905,680	580,446,862	0	0	0	0	1,081,245,242		
	2015	(28,780,422)	384,287,465	115,703,501	590,367,574	0	0	0	0	1,090,358,540		
<b>Allocation of Weather Sensitive Amount</b>												
	2014		(8,766,162)	(2,639,821)	(13,220,025)	0	0	0	0	(24,626,008)		Total
	2015		(10,143,411)	(3,054,037)	(15,582,973)	0	0	0	0	(28,780,422)		
CDM	Manual Adjustment to the Load Forecast from 2013 and 2014 Programs on a Net Level											
	2014	(3,619,024)	(704,965)	(813,230)	(2,100,829)	0	0	0	0	(3,619,024)		Total
	2015	(8,688,049)	(1,692,381)	(1,952,290)	(5,043,378)	0	0	0	0	(8,688,049)		
<b>Weather Corrected Forecast after 2013 and 2014 CDM Adjustments</b>												
	2014	1,184,453,504	402,178,821	120,510,242	651,859,447	0	262,521	7,411,072	2,231,402	1,184,453,504		Adj Weather Total
	2015	1,185,817,112	399,166,843	118,740,733	657,957,068	0	259,459	7,477,962	2,215,047	1,185,817,112		
<b>% of Total for CDM</b>												
			-2.03%	-2.13%	-2.13%	-1.98%	#DIV/0!	0.00%	0.00%	0.00%		-2.03%
			-2.35%	-2.47%	-2.47%	-2.30%	#DIV/0!	0.00%	0.00%	0.00%		-2.35%
	2014			19.48%	22.47%	58.05%						
	2015			19.48%	22.47%	58.05%						

**Average Number of Customers or Connections**

	<u>Residential</u>	<u>GS&lt;50</u>	<u>GS&gt;50</u>	<u>Large User</u>	<u>Sentinels</u>	<u>Streetlights</u>	<u>USL</u>	Total
1999								
2000								
2001								
2002	40,624	4,171	796	0	582	11,157	419	57,749
2003	42,507	3,982	864	0	582	11,358	422	59,715
2004	42,859	4,033	819	0	602	11,588	422	60,323
2005	43,068	4,437	802	0	522	11,752	422	61,003
2006	43,724	4,438	871	0	594	11,807	422	61,856
2007	44,325	4,339	853	0	569	11,933	440	62,459
2008	44,955	4,260	847	0	564	11,986	445	63,057
2009	45,761	4,257	852	0	566	12,136	454	64,026
2010	45,840	4,357	851	0	417	12,334	465	64,264
2011	45,996	4,307	859	0	369	12,540	424	64,494
2012	45,871	4,260	855	0	343	12,507	384	64,220
2013	46,274	4,315	863	0	337	12,702	422	64,913
2014	46,669	4,350	863	0	320	12,845	422	65,467
2015	47,067	4,385	862	0	303	12,989	422	66,028

**Growth Rate in Customer Numbers**

1999								
2000								
2001								
2002								
2003								
2004	1.0083	1.0128	0.9479	0.0000	1.0344	1.0203	1.0000	
2005	1.0049	1.1002	0.9792	0.0000	0.8671	1.0142	1.0000	
2006	1.0152	1.0002	1.0860	0.0000	1.1379	1.0047	1.0000	
2007	1.0137	0.9777	0.9793	0.0000	0.9579	1.0107	1.0427	
2008	1.0142	0.9818	0.9930	0.0000	0.9917	1.0044	1.0113	
2009	1.0179	0.9992	1.0062	0.0000	1.0022	1.0126	1.0203	
2010	1.0017	1.0235	0.9986	0.0000	0.7374	1.0163	1.0242	
2011	1.0034	0.9885	1.0088	0.0000	0.8851	1.0166	0.9119	
2012	0.9973	0.9891	0.9961	0.0000	0.9299	0.9974	0.9045	
2013	1.0088	1.0130	1.0088	0.0000	0.9832	1.0156	1.0992	
Used	1.0085	1.0081	0.9999	0.0000	0.9470	1.0112	0.9999	
Geomean	1.0085	1.0081	0.9999	0.0000	0.9470	1.0112	0.9999	

**Average Load by Rate Class**

	GS>50	Large User	Sentinels	Streetlights	Total
1999					
2000					
2001					
2002	1,529,263	0	956	17,456	1,547,675
2003	1,573,551	0	968	17,588	1,592,107
2004	1,673,046	0	933	19,480	1,693,459
2005	1,719,941	0	892	19,789	1,740,622
2006	1,777,691	0	831	19,932	1,798,454
2007	1,884,479	0	825	20,188	1,905,492
2008	1,735,816	0	733	20,371	1,756,920
2009	1,753,191	0	695	20,319	1,774,205
2010	1,769,836	0	653	19,656	1,790,145
2011	1,793,543	0	679	20,391	1,814,614
2012	1,761,221	0	721	21,037	1,782,980
2013	1,721,554	0	716	20,809	1,743,079
2014	1,723,755	0	713	20,995	1,745,463
2015	1,739,879	0	705	21,184	1,761,769

**kW/kWh**

1999				
2000				
2001				
2002				
2003	0.2842%	#DIV/0!	0.3241%	0.2620%
2004	0.2796%	#DIV/0!	0.3118%	0.2772%
2005	0.2820%	#DIV/0!	0.2649%	0.2653%
2006	0.2957%	#DIV/0!	0.2620%	0.2420%
2007	0.3029%	#DIV/0!	0.2794%	0.2874%
2008	0.2866%	#DIV/0!	0.2556%	0.2715%
2009	0.2957%	#DIV/0!	0.2362%	0.2794%
2010	0.2896%	#DIV/0!	0.2225%	0.2667%
2011	0.2657%	#DIV/0!	0.2760%	0.2795%
2012	0.2652%	#DIV/0!	0.2695%	0.2870%
2013	0.2624%	#DIV/0!	0.2696%	0.2833%
11 Year Aver.	0.2827%	#DIV/0!	0.2701%	0.2729%
3 Year Avera	0.2644%	#DIV/0!	0.2717%	0.2833%

**Long-Term Load Transfer Data**

**NPEI Geographic (A/P)**

Used 2012 as  
estimate for missing info

<b>Physical Distributor</b>	<b>Customer Class</b>	<b>2008 kWh</b>	<b>2009 kWh</b>	<b>2010 kWh</b>	<b>2011 kWh</b>	<b>2012 kWh</b>	<b>2013 kWh</b>
CNP	Residential	132,652	142,273	145,366	124,739	113,652	113,652
NOTL	Residential	110,141	132,870	129,366	102,698	109,292	109,292
Hydro One	Residential	1,006,943	1,039,014	1,096,349	1,225,535	1,246,238	1,217,154
	GS<50	167,608	176,995	169,698	187,767	187,406	162,920
	GS>50	0	0	159,816	159,600	161,520	162,240
Welland Horizon Horizon	Residential	122,030	129,571	137,514	119,214	139,802	139,802
	Residential	201,016	116,619	96,514	75,198	74,601	74,601
Grimsby	GS<50	7,434	7,830	7,667	10,596	12,211	12,211
	Residential	37,880	34,050	33,735	33,000	27,693	28,352
	GS<50	4,069	8,280	29,920	12,510	6,930	24,373
<b>Total</b>		<b>1,785,704</b>	<b>1,787,502</b>	<b>2,005,945</b>	<b>2,050,856</b>	<b>2,079,345</b>	<b>2,044,597</b>

**NPEI Physical (A/R)**

<b>Physical Distributor</b>	<b>Customer Class</b>	<b>2008 kWh</b>	<b>2009 kWh</b>	<b>2010 kWh</b>	<b>2011 kWh</b>	<b>2012 kWh</b>	<b>2013 kWh</b>
Hydro One	Residential	1,764,940	1,749,584	1,607,727	1,826,404	1,770,935	1,823,409
	GS<50	458,287	516,008	670,650	335,668	249,984	217,892
	GS>50	174,460	70,720	710,920	831,960	838,860	807,920
Horizon	Residential	40,303	44,356	39,541	36,332	34,441	34,441
Grimsby	Residential	317,659	117,478	115,641	106,860	104,598	97,214
	GS<50	16,604	25,004	19,492	22,715	26,675	28,686
		<b>2,772,253</b>	<b>2,523,150</b>	<b>3,163,971</b>	<b>3,159,939</b>	<b>3,025,493</b>	<b>3,009,562</b>

**Summary Net Load Transfer**

	<b>(986,549.00)</b>	<b>(735,648.00)</b>	<b>(1,158,026.16)</b>	<b>(1,109,082.61)</b>	<b>(946,148.32)</b>	<b>(964,964.86)</b>
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<b>Month</b>	<b>Kwh per month</b>
Jan-08	(82,212)
Feb-08	(82,212)
Mar-08	(82,212)
Apr-08	(82,212)
May-08	(82,212)
Jun-08	(82,212)
Jul-08	(82,212)
Aug-08	(82,212)
Sep-08	(82,212)

Oct-08	(82,212)
Nov-08	(82,212)
Dec-08	(82,212)
Jan-09	(61,304)
Feb-09	(61,304)
Mar-09	(61,304)
Apr-09	(61,304)
May-09	(61,304)
Jun-09	(61,304)
Jul-09	(61,304)
Aug-09	(61,304)
Sep-09	(61,304)
Oct-09	(61,304)
Nov-09	(61,304)
Dec-09	(61,304)
Jan-10	(96,502.18)
Feb-10	(96,502.18)
Mar-10	(96,502.18)
Apr-10	(96,502.18)
May-10	(96,502.18)
Jun-10	(96,502.18)
Jul-10	(96,502.18)
Aug-10	(96,502.18)
Sep-10	(96,502.18)
Oct-10	(96,502.18)
Nov-10	(96,502.18)
Dec-10	(96,502.18)
Jan-11	(92,423.55)
Feb-11	(92,423.55)
Mar-11	(92,423.55)
Apr-11	(92,423.55)
May-11	(92,423.55)
Jun-11	(92,423.55)
Jul-11	(92,423.55)
Aug-11	(92,423.55)
Sep-11	(92,423.55)
Oct-11	(92,423.55)
Nov-11	(92,423.55)
Dec-11	(92,423.55)
Jan-12	(78,845.69)
Feb-12	(78,845.69)
Mar-12	(78,845.69)
Apr-12	(78,845.69)
May-12	(78,845.69)

Jun-12	(78,845.69)
Jul-12	(78,845.69)
Aug-12	(78,845.69)
Sep-12	(78,845.69)
Oct-12	(78,845.69)
Nov-12	(78,845.69)
Dec-12	(78,845.69)
Jan-13	(80,413.74)
Feb-13	(80,413.74)
Mar-13	(80,413.74)
Apr-13	(80,413.74)
May-13	(80,413.74)
Jun-13	(80,413.74)
Jul-13	(80,413.74)
Aug-13	(80,413.74)
Sep-13	(80,413.74)
Oct-13	(80,413.74)
Nov-13	(80,413.74)
Dec-13	(80,413.74)

# OPA Conservation & Demand Management Programs

Annual Results at the End-User Level

For: Niagara Peninsula Energy Inc.

## Net Summer Peak Demand Savings (MW)

#	Program Year	Results Status
1	2006 Programs	Final
2	2007 Programs	Final
3	2008 Programs	Final
4	2009 Programs	Final
5	2010 Programs	Final
<b>Total</b>		

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
3.0901	0.2039	0.2039	0.2039	0.2039	0.2039	0.1898	0.1898	0.1484	0.1484
0.0000	4.7648	0.5359	0.3880	0.3880	0.3861	0.3712	0.3712	0.3712	0.3296
0.0000	0.0000	6.6749	1.0099	1.0099	1.0099	1.0040	1.0040	0.9912	0.9869
0.0000	0.0000	0.0000	5.7505	0.8720	0.8720	0.8701	0.8556	0.8256	0.8220
0.0000	0.0000	0.0000	0.0000	4.8693	1.0760	1.0755	1.0728	1.0545	1.0076
<b>3.0901</b>	<b>4.9687</b>	<b>7.4147</b>	<b>7.3524</b>	<b>7.3432</b>	<b>3.5479</b>	<b>3.5106</b>	<b>3.4934</b>	<b>3.3910</b>	<b>3.2946</b>

## Net Energy Savings (MWh)

#	Program Year	Results Status
1	2006 Programs	Final
2	2007 Programs	Final
3	2008 Programs	Final
4	2009 Programs	Final
5	2010 Programs	Final
<b>Total</b>		

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
4,211	4,211	4,211	4,211	731	731	669	669	629	629
0	3,589	2,152	1,974	1,974	1,973	1,908	1,908	1,908	653
0	0	3,033	2,473	2,473	2,473	2,297	2,297	2,113	1,976
0	0	0	4,448	3,613	3,613	3,611	3,522	3,287	3,045
0	0	0	0	5,435	4,043	4,037	4,035	3,930	3,511
<b>4,211</b>	<b>7,801</b>	<b>9,397</b>	<b>13,106</b>	<b>14,226</b>	<b>12,834</b>	<b>12,522</b>	<b>12,430</b>	<b>11,867</b>	<b>9,814</b>

## Gross Summer Peak Demand Savings (MW)

#	Program Year	Results Status
1	2006 Programs	Final
2	2007 Programs	Final
3	2008 Programs	Final
4	2009 Programs	Final
5	2010 Programs	Final
<b>Total</b>		

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
3.1277	0.2416	0.2416	0.2416	0.2416	0.2416	0.2258	0.2258	0.1799	0.1799
0.0000	11.9992	2.8446	1.6122	1.6122	1.6077	1.5299	1.5299	1.5299	1.4635
0.0000	0.0000	7.0825	1.3853	1.3853	1.3853	1.3697	1.3697	1.3418	1.3303
0.0000	0.0000	0.0000	6.2763	1.3930	1.3930	1.3892	1.3590	1.3039	1.2962
0.0000	0.0000	0.0000	0.0000	5.5019	1.7094	1.7094	1.7019	1.6628	1.5754
<b>3.1277</b>	<b>12.2408</b>	<b>10.1687</b>	<b>9.5153</b>	<b>10.1340</b>	<b>6.3370</b>	<b>6.2241</b>	<b>6.1863</b>	<b>6.0183</b>	<b>5.8453</b>

## Gross Energy Savings (MWh)

#	Program Year	Results Status
1	2006 Programs	Final
2	2007 Programs	Final
3	2008 Programs	Final
4	2009 Programs	Final
5	2010 Programs	Final
<b>Total</b>		

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
4,703	4,703	4,703	4,703	837	837	767	767	722	722
0	17,078	5,211	3,720	3,720	3,719	3,537	3,537	3,537	1,613
0	0	5,842	5,113	5,113	5,113	4,655	4,655	4,244	3,879
0.0000	0.0000	0.0000	6,821.2054	5,875.9691	5,875.9691	5,872.0270	5,698.5793	5,256.3914	4,903.1878
0	0	0	0	8,091	6,724	6,723	6,716	6,511	5,638
<b>4,703</b>	<b>21,781</b>	<b>15,757</b>	<b>20,357</b>	<b>23,636</b>	<b>22,268</b>	<b>21,554</b>	<b>21,373</b>	<b>20,271</b>	<b>16,756</b>

Methodology for Implementing CDM Explanatory Variable,  
as per Board Staff Interrogatory #22, London Hydro COS Application EB-2012-0146/EB-2012-0380

Year	Reported Savings (kWh)	Incremental Savings		
		(Reported Savings less Prior Year)	First Year (Half of Incremental Savings)	Monthly Increment (Year/78)
2006	4,211,271	4,211,271	2,105,636	26,995
2007	7,800,592	3,589,321	1,794,660	23,008
2008	9,396,789	1,596,197	798,099	10,232
2009	13,106,362	3,709,573	1,854,786	23,779
2010	14,225,868	1,119,506	559,753	7,176
2011	17,860,867	3,634,999	1,817,499	23,301
2012	23,164,672	5,303,805	2,651,903	33,999
2013	30,183,942	7,019,270	3,509,635	44,995
2014	36,443,378	6,259,435	3,129,718	40,125
2015	36,522,714	79,337	39,668	509

Based on 2012 Final Report

4 Year (2011-2014) kWh Target:					
58,000,000					
	2011	2012	2013	2014	Total
2011 CDM Programs	8.67%	8.67%	8.45%	7.93%	33.71%
2012 CDM Programs		9.68%	9.68%	9.48%	28.85%
2013 CDM Programs			12.48%	12.48%	24.96%
2014 CDM Programs				12.48%	12.48%
<b>Total in Year</b>	<b>8.67%</b>	<b>18.35%</b>	<b>30.61%</b>	<b>42.37%</b>	<b>100.00%</b>
kWh					
2011 CDM Programs	5,026,978.00	5,026,978.00	4,900,000.00	4,600,000.00	19,553,956.00
2012 CDM Programs		5,615,949.00	5,615,949.00	5,500,000.00	16,731,898.00
2013 CDM Programs			7,238,048.67	7,238,048.67	14,476,097.33
2014 CDM Programs				7,238,048.67	7,238,048.67
<b>Total in Year</b>	<b>5,026,978.00</b>	<b>10,642,927.00</b>	<b>17,753,997.67</b>	<b>24,576,097.33</b>	<b>58,000,000.00</b>

Jan	1
Feb	2
Mar	3
Apr	4
May	5
Jun	6
Jul	7
Aug	8
Sep	9
Oct	10
Nov	11
Dec	12
<b>Total</b>	<b>78</b>

NPEI CDM Programs  
Net Energy Savings  
(MWh)  
As reported by the  
OPA (Annualized  
Basis)

Year Initiated	Effect in Year									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
2006	4,211	4,211	4,211	4,211	731	731	669	669	629	629
2007		3,589	2,152	1,974	1,974	1,973	1,908	1,908	1,908	653
2008			3,033	2,473	2,473	2,473	2,297	2,297	2,113	1,976
2009				4,448	3,613	3,613	3,611	3,522	3,287	3,045
2010					5,435	4,043	4,037	4,035	3,930	3,511
2011						5,027	5,027	4,900	4,600	4,318
2012							5,616	5,616	5,500	5,163
2013								7,238	7,238	7,089
2014									7,238	7,238
2015										2,900
<b>Total</b>	<b>4,211</b>	<b>7,801</b>	<b>9,397</b>	<b>13,106</b>	<b>14,226</b>	<b>17,861</b>	<b>23,165</b>	<b>30,184</b>	<b>36,443</b>	<b>36,523</b>

Manual Adjustments to Load Forecast:

2014 Bridge Year:

50% of 2014 Initiatives (3,619)  
(3,619)

2015 Test Year:

100% of 2014 Initiatives (7,238)  
 50% of 2015 Initiatives (1,450)  
(8,688)

Jan-06	13,498	Jan-08	555,158	Jan-10	927,755	Jan-12	1,276,419	Jan-14	2,148,417
Feb-06	40,493	Feb-08	565,390	Feb-10	934,931	Feb-12	1,310,418	Feb-14	2,188,542
Mar-06	67,488	Mar-08	575,622	Mar-10	942,107	Mar-12	1,344,417	Mar-14	2,228,666
Apr-06	94,484	Apr-08	585,854	Apr-10	949,284	Apr-12	1,378,416	Apr-14	2,268,791
May-06	121,479	May-08	596,086	May-10	956,460	May-12	1,412,414	May-14	2,308,916
Jun-06	148,474	Jun-08	606,318	Jun-10	963,636	Jun-12	1,446,413	Jun-14	2,349,040
Jul-06	175,470	Jul-08	616,550	Jul-10	970,813	Jul-12	1,480,412	Jul-14	2,389,165
Aug-06	202,465	Aug-08	626,782	Aug-10	977,989	Aug-12	1,514,411	Aug-14	2,429,289
Sep-06	229,460	Sep-08	637,014	Sep-10	985,165	Sep-12	1,548,409	Sep-14	2,469,414
Oct-06	256,456	Oct-08	647,246	Oct-10	992,342	Oct-12	1,582,408	Oct-14	2,509,538
Nov-06	283,451	Nov-08	657,478	Nov-10	999,518	Nov-12	1,616,407	Nov-14	2,549,663
Dec-06	296,949	Dec-08	662,594	Dec-10	1,003,106	Dec-12	1,633,406	Dec-14	2,569,725
Jan-07	308,453	Jan-09	674,484	Jan-11	1,014,757	Jan-13	1,655,904	Jan-15	2,569,980
Feb-07	331,461	Feb-09	698,263	Feb-11	1,038,058	Feb-13	1,700,899	Feb-15	2,570,488
Mar-07	354,470	Mar-09	722,042	Mar-11	1,061,359	Mar-13	1,745,895	Mar-15	2,570,997
Apr-07	377,478	Apr-09	745,822	Apr-11	1,084,661	Apr-13	1,790,890	Apr-15	2,571,505
May-07	400,487	May-09	769,601	May-11	1,107,962	May-13	1,835,885	May-15	2,572,014
Jun-07	423,495	Jun-09	793,380	Jun-11	1,131,263	Jun-13	1,880,881	Jun-15	2,572,522
Jul-07	446,504	Jul-09	817,160	Jul-11	1,154,564	Jul-13	1,925,876	Jul-15	2,573,031
Aug-07	469,512	Aug-09	840,939	Aug-11	1,177,866	Aug-13	1,970,871	Aug-15	2,573,540
Sep-07	492,521	Sep-09	864,718	Sep-11	1,201,167	Sep-13	2,015,867	Sep-15	2,574,048
Oct-07	515,529	Oct-09	888,498	Oct-11	1,224,468	Oct-13	2,060,862	Oct-15	2,574,557
Nov-07	538,538	Nov-09	912,277	Nov-11	1,247,769	Nov-13	2,105,857	Nov-15	2,575,065
Dec-07	550,042	Dec-09	924,167	Dec-11	1,259,420	Dec-13	2,128,355	Dec-15	2,575,320

Initiative	Unit	Incremental Activity				Net Incremental Peak Demand Savings (kW)				Net Incremental Energy Savings (kWh)				2014 Net Annual Peak	2011-2014 Cumulative Energy					
		2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014	2014	2014					
<b>Consumer Program</b>															Consumer	<50kW	>50kW			
Appliance	Appliances	512	339	158		30	20	9		214,685	135,814	63,786	0	59	1,393,046	1,393,046			Residential	
Appliance	Appliances	44	56	32		4	8	5		4,714	14,737	8,368		14	76,976	76,976			Residential	
HVAC Ince	Equipment	880	712	622		282	151	134		504,642	253,365	226,291		568	3,231,245	2,908,121	323,125		Residential (10% <50kW)	
Conservati	Coupons	7,729	307	1,040		15	2	2		272,325	13,904	31,226		19	1,193,463	1,193,463			Residential	
Bi-Annual	Coupons	9,469	10,550	10,472		17	15	16		292,245	266,332	302,178		47	2,572,330	2,572,330			Residential	
Retailer Cd	Items	0	0	0		0	0	0		0	0	0		0	0	-				
Residential	Devices	47	0	283		26	0	164		0	0	1,313		0	1,313	1,313				
Residential	Devices	0	0	275		0				0	0			0	0					
Residential	Homes	0	0			0				0	0			0	0					
<b>Consumer Program Total</b>					<b>374</b>	<b>196</b>	<b>330</b>	<b>0</b>	<b>1,288,611</b>	<b>684,152</b>	<b>633,162</b>	<b>0</b>	<b>707</b>	<b>8,468,373</b>	<b>8,145,249</b>	<b>323,125</b>	<b>0</b>			
<b>Business Program</b>																				
Retrofit	Projects	36	80	102		168	767	426		927,120	3,486,336	1,879,279		1,336	17,797,457		1,705,341	16,092,116	91% >50kW 9% <50kW	
Direct Inst	Projects	347	217	140		333	177	162		903,623	712,848	700,564		533	6,675,457		6,675,457		<50kW	
Building Cd	Buildings	0	0	0		0	0	0		0	0	0		0	0					
New Const	Buildings	0	0	0		0	0	0		0	0	0		0	0					
Energy Au	Audits	3	8	1		0	41	5		0	201,410	25,175		47	654,583			654,583		
Small Com	Devices	4	0	1		3	0	1		0	0	5		0	5			5		
Small Com	Devices	0	0	1		0	0	0		0	0	0		0	0					
Demand R	Facilities	3	3	2		106	106	106		4,146	1,548	1,548		0	7,242			7,242	>50kW	
<b>Business Program Total</b>					<b>610</b>	<b>1,091</b>	<b>700</b>	<b>0</b>	<b>1,834,889</b>	<b>4,402,142</b>	<b>2,606,571</b>	<b>0</b>	<b>1,916</b>	<b>25,134,744</b>	<b>0</b>	<b>8,380,798</b>	<b>16,753,946</b>			
<b>Industrial Program Total</b>																				
Process &	Projects	0	0	0		0	0	0		0	0									
Monitoring	Projects	0	0	0		0	0	0		0	0									
Energy Ma	Projects	0	0	0		0	0	0		0	0									
Retrofit	Projects	1	0	0		2	0	0		13,815	0	0		2	55,262			55,262	>50kW	
Demand R	Facilities	1	1	5		63	65	506		3,710	1,578	12,203	0	0	17,491			17,491	>50kW	
<b>Industrial Program Total</b>					<b>65</b>	<b>65</b>	<b>506</b>	<b>0</b>	<b>17,525</b>	<b>1,578</b>	<b>12,203</b>	<b>0</b>	<b>2</b>	<b>72,753</b>	<b>0</b>	<b>0</b>	<b>72,753</b>			
<b>Home Assistance Program</b>																				
Home Assi	Homes	10	44	178		0	5	10		9,137	54,743	123,348	0	15	447,473	447,473				
<b>Industrial Program Total</b>					<b>0</b>	<b>5</b>	<b>10</b>	<b>0</b>	<b>9,137</b>	<b>54,743</b>	<b>123,348</b>	<b>0</b>	<b>15</b>	<b>447,473</b>	<b>447,473</b>	<b>0</b>	<b>0</b>			
<b>Pre-2011 Program</b>																				
ERIP	Projects	23	0			263	0			1,480,972	0	0		263	5,923,888		567,623	5,356,265	91% >50kW 9% <50kW	
HPNC	Projects	3	2			77	136			395,844	643,518	0		213	3,513,933			3,513,933	>50kW	
Toronto Cd	Projects	0	0			0	0			0	0									
Multifamil	Projects	0	0			0	0			0	0									
LDC Custor	Projects	0	0			0	0			0	0									
<b>Total Pre-2011 Programs</b>					<b>340</b>	<b>136</b>	<b>0</b>	<b>0</b>	<b>1,876,816</b>	<b>643,518</b>	<b>0</b>	<b>0</b>	<b>476</b>	<b>9,437,821</b>	<b>0</b>	<b>567,623</b>	<b>8,870,198</b>			
<b>Other</b>																				
Program E	Projects	0	0			0	0			0	0	0		0	0					
Time-of-ud	Homes	0	0			0	0			0	0	0		0	0					
<b>Total Other</b>					<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>					
<b>Adjustments to Previous Year's Verified Results</b>					<b>0</b>	<b>-7</b>				<b>-170,184</b>				<b>-16</b>	<b>-716,260</b>	<b>(246,785)</b>	<b>356,126</b>	<b>(825,601)</b>		
<b>Energy Efficiency Total</b>					<b>1,191</b>	<b>1,322</b>	<b>769</b>	<b>0</b>	<b>5,019,122</b>	<b>5,783,007</b>	<b>3,360,215</b>	<b>0</b>	<b>3,116</b>	<b>43,535,113</b>	<b>8,591,409</b>	<b>9,271,545</b>	<b>25,672,159</b>			
<b>Demand Response Total (Scenario 1)</b>					<b>198</b>	<b>171</b>	<b>777</b>	<b>0</b>	<b>7,856</b>	<b>3,126</b>	<b>15,069</b>	<b>0</b>	<b>0</b>	<b>26,051</b>	<b>1,313</b>	<b>0</b>	<b>24,738</b>			
<b>OPA-Contracted LDC Portfolio Total (incl. Adjustments)</b>					<b>1,389</b>	<b>1,486</b>	<b>1,546</b>	<b>0</b>	<b>5,026,978</b>	<b>5,615,949</b>	<b>3,375,284</b>	<b>0</b>	<b>3,100</b>	<b>42,844,904</b>	<b>8,345,937</b>	<b>9,627,671</b>	<b>24,871,296</b>	<b>19.4794%</b>	<b>22.4710%</b>	<b>58.0496%</b>
<b>OEB Target</b>												<b>15,500</b>	<b>58,000,000</b>							
<b>% of OEB Target Achieved</b>												<b>20%</b>	<b>74%</b>							

<b>2014 Load Forecast</b>	<b>kWh</b>	<b>kW</b>	<b>2013 %RPP</b>
Residential	402,178,821		92%
GS<50	120,510,242		86%
GS>50	651,859,447	1,723,755	5%
Large User	0	-	0%
Sentinels	262,521	713	81%
Streetlights	7,411,072	20,995	1%
USL	2,231,402		100%
<b>TOTAL</b>	<b>1,184,453,504</b>	<b>1,745,463</b>	

<b>Electricity - Commodity RPP</b>		<b>2014 Forecasted Metered kWhs</b>	<b>2014 Loss Factor</b>	<b>2014</b>		
<b>Class per Load Forecast RPP</b>						
Residential		370,922,053	1.0479	388,698,148	\$0.09250	\$35,954,579
GS<50		103,510,458	1.0479	108,471,100	\$0.09250	\$10,033,577
GS>50		34,697,584	1.0479	36,360,433	\$0.09250	\$3,363,340
Large User		0	1.0479	0	\$0.09250	\$0
Sentinels		212,433	1.0479	222,614	\$0.09250	\$20,592
Streetlights		78,690	1.0479	82,461	\$0.09250	\$7,628
USL		2,231,402	1.0479	2,338,339	\$0.09250	\$216,296
<b>TOTAL</b>		<b>511,652,619</b>		<b>536,173,096</b>		<b>\$49,596,011</b>

<b>Electricity - Commodity Non-RPP</b>		<b>2014 Forecasted Metered kWhs</b>	<b>2014 Loss Factor</b>	<b>2014</b>		
<b>Class per Load Forecast</b>						
Residential		31,256,768	1.0479	32,754,719	\$0.09096	\$2,979,369
GS<50		16,999,785	1.0479	17,814,483	\$0.09096	\$1,620,405
GS>50		617,161,863	1.0479	646,738,772	\$0.09096	\$58,827,359
Large User		0	1.0479	0	\$0.09096	\$0
Sentinels		50,088	1.0479	52,488	\$0.09096	\$4,774
Streetlights		7,332,382	1.0479	7,683,780	\$0.09096	\$698,917
USL		0	1.0479	0	\$0.09096	\$0
<b>TOTAL</b>		<b>672,800,885</b>		<b>705,044,243</b>		<b>\$64,130,824</b>

<b>Transmission - Network</b>		<b>Volume Metric</b>	<b>2014</b>		
<b>Class per Load Forecast</b>					
Residential		kWh	421,452,867	\$0.0073	\$3,076,606
GS<50		kWh	126,285,583	\$0.0066	\$833,485
GS>50		kW	1,723,755	\$2.7218	\$4,691,717
Large User		kW	0	\$0.0000	\$0
Sentinels		kW	713	\$2.0152	\$1,438
Streetlights		kW	20,995	\$2.0576	\$43,199
USL		kWh	2,338,339	\$0.0066	\$15,433
<b>TOTAL</b>					<b>\$8,661,877</b>

<b>Transmission - Connection</b>		<b>Volume Metric</b>	<b>2014</b>		
<b>Class per Load Forecast</b>					
Residential		kWh	421,452,867	\$0.0050	\$2,107,264
GS<50		kWh	126,285,583	\$0.0044	\$555,657
GS>50		kW	1,723,755	\$1.7467	\$3,010,883
Large User		kW	0	\$0.0000	\$0
Sentinels		kW	713	\$1.4595	\$1,041
Streetlights		kW	20,995	\$1.3420	\$28,175
USL		kWh	2,338,339	\$0.0044	\$10,289
<b>TOTAL</b>					<b>\$5,713,309</b>

<b>Wholesale Market Service</b>		<b>2014</b>			
<b>Class per Load Forecast</b>					
Residential			421,452,867	\$0.0044	\$1,966,780
GS<50			126,285,583	\$0.0044	\$589,333
GS>50			683,099,206	\$0.0044	\$3,187,796
Large User			0	\$0.0044	\$0

Sentinels			275,102	\$0.0044	\$1,284
Streetlights			7,766,241	\$0.0044	\$36,242
USL			2,338,339	\$0.0044	\$10,289
<b>TOTAL</b>			<b>1,241,217,338</b>		<b>\$5,791,724</b>

<b>Rural Rate Assistance</b>					
<b>Class per Load Forecast</b>				<b>2014</b>	
Residential			421,452,867	\$0.0013	\$547,889
GS<50			126,285,583	\$0.0013	\$164,171
GS>50			683,099,206	\$0.0013	\$888,029
Large User			0	\$0.0013	\$0
Sentinels			275,102	\$0.0013	\$358
Streetlights			7,766,241	\$0.0013	\$10,096
USL			2,338,339	\$0.0013	\$3,040
<b>TOTAL</b>			<b>1,241,217,338</b>		<b>\$1,613,583</b>

<b>Smart Meter Entity Charge</b>					
<b>Class per Load Forecast</b>				<b>2014</b>	
Residential			560,023	\$0.7900	\$442,418
GS<50			52,204	\$0.7900	\$41,241
<b>TOTAL</b>			<b>612,227</b>		<b>\$483,659</b>

		<b>2014</b>
4705-Power Purchased		\$113,726,836
4708-Charges-WMS		\$7,405,307
4714-Charges-NW		\$8,661,877
4716-Charges-CN		\$5,713,309
4751-Smart Meter Entity		\$483,659
<b>TOTAL</b>		<b>\$135,990,987</b>

<b>2015 Load Forecast</b>	<b>kWh</b>	<b>kW</b>	<b>2013 %RPP</b>
Residential	399,166,843		92%
GS<50	118,740,733		86%
GS>50	657,957,068	1,739,879	5%
Large User	0	-	0%
Sentinels	259,459	705	81%
Streetlights	7,477,962	21,184	1%
USL	2,215,047		100%
<b>TOTAL</b>	<b>1,185,817,112</b>	<b>1,761,769</b>	

<b>Electricity - Commodity RPP</b>		<b>2015 Forecasted Metered kWhs</b>	<b>2015 Loss Factor</b>	<b>2015</b>		
<b>Class per Load Forecast RPP</b>						
Residential		368,144,162	1.0479	385,787,129	\$0.09250	\$35,685,309
GS<50		101,990,564	1.0479	106,878,368	\$0.09250	\$9,886,249
GS>50		35,022,152	1.0479	36,700,556	\$0.09250	\$3,394,801
Large User		0	1.0479	0	\$0.09250	\$0
Sentinels		209,955	1.0479	220,017	\$0.09250	\$20,352
Streetlights		79,400	1.0479	83,205	\$0.09250	\$7,696
USL		2,215,047	1.0479	2,321,201	\$0.09250	\$214,711
<b>TOTAL</b>		<b>507,661,281</b>		<b>531,990,477</b>		<b>\$49,209,119</b>

<b>Electricity - Commodity Non-RPP</b>		<b>2015 Forecasted Metered kWhs</b>	<b>2015 Loss Factor</b>	<b>2015</b>		
<b>Class per Load Forecast</b>						
Residential		31,022,681	1.0479	32,509,414	\$0.09096	\$2,957,056
GS<50		16,750,169	1.0479	17,552,905	\$0.09096	\$1,596,612
GS>50		622,934,916	1.0479	652,788,493	\$0.09096	\$59,377,641
Large User		0	1.0479	0	\$0.09096	\$0
Sentinels		49,503	1.0479	51,876	\$0.09096	\$4,719
Streetlights		7,398,562	1.0479	7,753,131	\$0.09096	\$705,225
USL		0	1.0479	0	\$0.09096	\$0
<b>TOTAL</b>		<b>678,155,831</b>		<b>710,655,819</b>		<b>\$64,641,253</b>

<b>Transmission - Network</b>		<b>Volume Metric</b>	<b>2015</b>		
<b>Class per Load Forecast</b>					
Residential		kWh	418,296,544	\$0.0073	\$3,053,565
GS<50		kWh	124,431,272	\$0.0066	\$821,246
GS>50		kW	1,739,879	\$2.7218	\$4,735,604
Large User		kW	0	\$0.0000	\$0
Sentinels		kW	705	\$2.0152	\$1,421
Streetlights		kW	21,184	\$2.0576	\$43,589
USL		kWh	2,321,201	\$0.0066	\$15,320
<b>TOTAL</b>					<b>\$8,670,744</b>

<b>Transmission - Connection</b>		<b>Volume Metric</b>	<b>2015</b>		
<b>Class per Load Forecast</b>					
Residential		kWh	418,296,544	\$0.0050	\$2,091,483
GS<50		kWh	124,431,272	\$0.0044	\$547,498
GS>50		kW	1,739,879	\$1.7467	\$3,039,047
Large User		kW	0	\$0.0000	\$0
Sentinels		kW	705	\$1.4595	\$1,029
Streetlights		kW	21,184	\$1.3420	\$28,429
USL		kWh	2,321,201	\$0.0044	\$10,213
<b>TOTAL</b>					<b>\$5,717,699</b>

<b>Wholesale Market Service</b>		<b>Volume Metric</b>	<b>2015</b>		
<b>Class per Load Forecast</b>					
Residential			418,296,544	\$0.0044	\$1,952,051
GS<50			124,431,272	\$0.0044	\$580,679
GS>50			689,489,049	\$0.0044	\$3,217,616
Large User			0	\$0.0044	\$0
Sentinels			271,893	\$0.0044	\$1,269
Streetlights			7,836,336	\$0.0044	\$36,570
USL			2,321,201	\$0.0044	\$10,213
<b>TOTAL</b>			<b>1,242,646,296</b>		<b>\$5,798,397</b>

<b>Rural Rate Assistance</b>				
<b>Class per Load Forecast</b>		<b>2015</b>		
Residential		418,296,544	\$0.0013	\$543,786
GS<50		124,431,272	\$0.0013	\$161,761
GS>50		689,489,049	\$0.0013	\$896,336
Large User		0	\$0.0013	\$0
Sentinels		271,893	\$0.0013	\$353
Streetlights		7,836,336	\$0.0013	\$10,187
USL		2,321,201	\$0.0013	\$3,018
<b>TOTAL</b>		<b>1,242,646,296</b>		<b>\$1,615,440</b>

<b>Smart Meter Entity Charge</b>				
<b>Class per Load Forecast</b>		<b>2015</b>		
Residential		564,799	\$0.7900	\$446,191
GS<50		52,625	\$0.7900	\$41,574
<b>TOTAL</b>		<b>617,424</b>		<b>\$487,765</b>

<b>2015</b>	
4705-Power Purchased	\$113,850,372
4708-Charges-WMS	\$7,413,837
4714-Charges-NW	\$8,670,744
4716-Charges-CN	\$5,717,699
4751-Smart Meter Entity	\$487,765
<b>TOTAL</b>	<b>\$136,140,418</b>

## Calculation of Mean Absolute Percentage Error (MAPE)



Month	Actual kWh	Predicted kWh	Difference	Absolute Value of Difference	Absolute Value of Difference / Actual
Jan-02	98,398,774	97,692,694	706,080	706,080	0.007175699
Feb-02	87,515,454	88,253,106	-737,652	737,652	0.008428818
Mar-02	94,028,461	92,609,630	1,418,831	1,418,831	0.015089383
Apr-02	86,184,466	85,214,616	969,849	969,849	0.011253179
May-02	85,447,299	86,740,751	-1,293,452	1,293,452	0.015137424
Jun-02	95,651,673	94,950,462	701,210	701,210	0.007330875
Jul-02	119,450,096	123,515,844	-4,065,747	4,065,747	0.034037206
Aug-02	114,483,163	116,730,864	-2,247,701	2,247,701	0.019633462
Sep-02	96,936,653	97,037,179	-100,526	100,526	0.001037027
Oct-02	90,917,731	89,981,481	936,250	936,250	0.01029777
Nov-02	90,920,618	88,581,118	2,339,500	2,339,500	0.025731235
Dec-02	102,776,286	101,357,731	1,418,555	1,418,555	0.013802355
Jan-03	104,493,535	104,864,772	-371,237	371,237	0.003552732
Feb-03	96,011,347	94,315,757	1,695,590	1,695,590	0.017660309
Mar-03	95,684,640	96,256,792	-572,152	572,152	0.005979555
Apr-03	86,343,957	89,975,379	-3,631,421	3,631,421	0.04205762
May-03	84,100,206	89,236,537	-5,136,331	5,136,331	0.061073944
Jun-03	90,485,413	96,441,719	-5,956,306	5,956,306	0.06582615
Jul-03	107,838,219	109,500,535	-1,662,316	1,662,316	0.015414906
Aug-03	111,720,633	117,008,526	-5,287,893	5,287,893	0.04733139
Sep-03	90,994,824	87,376,123	3,618,701	3,618,701	0.039768208
Oct-03	90,574,201	90,389,955	184,247	184,247	0.002034207
Nov-03	91,660,392	90,072,437	1,587,956	1,587,956	0.017324338
Dec-03	102,135,791	102,212,184	-76,392	76,392	0.000747948
Jan-04	110,906,403	108,112,770	2,793,634	2,793,634	0.025189112
Feb-04	98,773,310	98,419,855	353,454	353,454	0.003578439
Mar-04	100,169,246	96,968,541	3,200,706	3,200,706	0.031952979
Apr-04	89,485,333	90,870,798	-1,385,465	1,385,465	0.015482594
May-04	90,686,143	90,306,901	379,242	379,242	0.004181915
Jun-04	96,517,444	94,679,765	1,837,680	1,837,680	0.019039869
Jul-04	110,297,642	106,992,251	3,305,391	3,305,391	0.029967924
Aug-04	109,063,695	108,308,306	755,390	755,390	0.006926132
Sep-04	103,094,592	96,923,445	6,171,147	6,171,147	0.059859079
Oct-04	93,329,246	92,318,553	1,010,693	1,010,693	0.010829324
Nov-04	94,434,399	92,530,823	1,903,576	1,903,576	0.020157653
Dec-04	108,483,621	106,213,850	2,269,771	2,269,771	0.020922704
Jan-05	111,357,551	109,438,481	1,919,070	1,919,070	0.017233407
Feb-05	97,354,644	98,242,916	-888,272	888,272	0.009124083
Mar-05	103,696,307	101,936,206	1,760,101	1,760,101	0.016973614
Apr-05	91,002,648	93,771,375	-2,768,727	2,768,727	0.030424684
May-05	90,914,555	93,862,538	-2,947,983	2,947,983	0.032425867
Jun-05	117,110,314	112,238,553	4,871,760	4,871,760	0.041599754
Jul-05	130,492,623	129,713,705	778,918	778,918	0.005969056
Aug-05	125,304,430	126,521,615	-1,217,185	1,217,185	0.009713822
Sep-05	103,515,709	101,668,383	1,847,327	1,847,327	0.017845858
Oct-05	95,683,703	97,627,082	-1,943,379	1,943,379	0.020310448

Nov-05	95,832,424	95,963,100	-130,676	130,676	0.00136359
Dec-05	109,926,431	110,738,844	-812,413	812,413	0.007390514
Jan-06	105,189,786	108,044,434	-2,854,648	2,854,648	0.027138072
Feb-06	97,673,987	100,381,767	-2,707,780	2,707,780	0.027722631
Mar-06	102,138,407	102,268,919	-130,511	130,511	0.001277789
Apr-06	89,654,385	94,878,724	-5,224,338	5,224,338	0.058271977
May-06	96,375,371	99,690,366	-3,314,995	3,314,995	0.034396707
Jun-06	106,149,796	106,208,823	-59,027	59,027	0.000556077
Jul-06	129,944,898	128,324,395	1,620,503	1,620,503	0.012470692
Aug-06	120,333,539	116,310,045	4,023,494	4,023,494	0.03343618
Sep-06	95,914,535	92,631,096	3,283,439	3,283,439	0.034232963
Oct-06	99,436,287	96,912,111	2,524,176	2,524,176	0.025384855
Nov-06	98,699,343	96,531,056	2,168,287	2,168,287	0.021968609
Dec-06	106,547,506	107,251,527	-704,020	704,020	0.006607573
Jan-07	110,076,804	110,275,202	-198,398	198,398	0.001802357
Feb-07	106,214,903	103,464,856	2,750,047	2,750,047	0.025891352
Mar-07	105,901,314	103,718,162	2,183,152	2,183,152	0.020614963
Apr-07	96,871,140	97,175,531	-304,391	304,391	0.003142229
May-07	96,387,835	97,908,860	-1,521,025	1,521,025	0.015780263
Jun-07	113,036,516	109,805,575	3,230,941	3,230,941	0.028583163
Jul-07	116,239,482	117,746,649	-1,507,167	1,507,167	0.01296605
Aug-07	124,879,950	124,368,063	511,887	511,887	0.004099032
Sep-07	104,023,176	99,671,729	4,351,447	4,351,447	0.041831512
Oct-07	99,226,202	98,044,554	1,181,648	1,181,648	0.011908628
Nov-07	100,079,144	97,850,024	2,229,120	2,229,120	0.022273574
Dec-07	110,979,900	110,348,651	631,249	631,249	0.005687962
Jan-08	109,510,859	110,253,962	-743,103	743,103	0.006785656
Feb-08	104,696,663	105,268,501	-571,838	571,838	0.005461855
Mar-08	105,342,397	104,701,766	640,631	640,631	0.006081413
Apr-08	86,729,774	95,971,708	-9,241,935	9,241,935	0.106560116
May-08	95,591,327	96,275,702	-684,375	684,375	0.007159383
Jun-08	106,359,072	106,705,484	-346,413	346,413	0.00325701
Jul-08	120,281,441	119,080,723	1,200,718	1,200,718	0.009982573
Aug-08	112,894,871	113,464,430	-569,559	569,559	0.00504504
Sep-08	101,394,552	97,273,034	4,121,519	4,121,519	0.040648323
Oct-08	95,461,113	96,640,057	-1,178,944	1,178,944	0.012349995
Nov-08	97,537,061	98,679,080	-1,142,019	1,142,019	0.011708566
Dec-08	111,556,941	111,528,922	28,020	28,020	0.000251171
Jan-09	117,644,799	113,852,701	3,792,098	3,792,098	0.032233449
Feb-09	97,575,928	100,444,296	-2,868,367	2,868,367	0.029396258
Mar-09	101,971,897	103,192,824	-1,220,927	1,220,927	0.011973172
Apr-09	92,172,703	95,486,144	-3,313,441	3,313,441	0.03594818
May-09	90,679,049	95,160,359	-4,481,310	4,481,310	0.049419462
Jun-09	97,810,557	100,756,078	-2,945,520	2,945,520	0.030114543
Jul-09	106,317,706	106,505,760	-188,055	188,055	0.001768798
Aug-09	118,314,176	118,315,788	-1,612	1,612	1.36278E-05
Sep-09	96,760,283	93,732,912	3,027,371	3,027,371	0.031287332
Oct-09	93,898,385	95,507,077	-1,608,692	1,608,692	0.01713226
Nov-09	93,733,129	94,267,884	-534,755	534,755	0.00570508
Dec-09	109,929,208	108,177,264	1,751,944	1,751,944	0.015937023
Jan-10	112,728,743	110,264,006	2,464,738	2,464,738	0.021864323
Feb-10	99,258,445	99,172,103	86,342	86,342	0.000869872
Mar-10	100,040,210	100,139,889	-99,678	99,678	0.000996381
Apr-10	89,357,236	93,034,422	-3,677,186	3,677,186	0.041151516
May-10	98,050,856	97,464,069	586,787	586,787	0.005984514

Jun-10	106,969,130	104,483,413	2,485,717	2,485,717	0.023237702
Jul-10	130,192,001	129,149,267	1,042,734	1,042,734	0.008009201
Aug-10	125,435,396	123,699,000	1,736,396	1,736,396	0.013842954
Sep-10	99,514,707	96,661,149	2,853,558	2,853,558	0.028674736
Oct-10	94,152,765	95,951,707	-1,798,941	1,798,941	0.019106624
Nov-10	97,120,412	96,082,428	1,037,985	1,037,985	0.010687604
Dec-10	111,894,733	110,349,420	1,545,314	1,545,314	0.013810422
Jan-11	113,829,885	112,321,926	1,507,959	1,507,959	0.013247478
Feb-11	102,120,252	101,177,386	942,866	942,866	0.009232902
Mar-11	106,849,783	103,563,676	3,286,106	3,286,106	0.030754445
Apr-11	94,087,029	96,272,661	-2,185,632	2,185,632	0.023229896
May-11	95,311,649	96,315,689	-1,004,040	1,004,040	0.010534279
Jun-11	104,481,388	101,919,787	2,561,601	2,561,601	0.024517294
Jul-11	132,315,624	134,164,484	-1,848,859	1,848,859	0.013973099
Aug-11	120,979,110	124,434,721	-3,455,611	3,455,611	0.028563702
Sep-11	101,456,692	96,488,314	4,968,379	4,968,379	0.048970438
Oct-11	95,202,185	96,292,694	-1,090,509	1,090,509	0.011454665
Nov-11	94,439,501	94,921,488	-481,987	481,987	0.005103655
Dec-11	105,238,563	107,336,048	-2,097,484	2,097,484	0.019930757
Jan-12	109,223,578	109,510,645	-287,067	287,067	0.002628249
Feb-12	99,573,605	101,884,379	-2,310,774	2,310,774	0.023206689
Mar-12	96,940,329	99,759,652	-2,819,323	2,819,323	0.02908308
Apr-12	90,395,437	95,103,935	-4,708,498	4,708,498	0.052087785
May-12	100,200,864	97,628,162	2,572,702	2,572,702	0.025675448
Jun-12	110,427,096	113,922,951	-3,495,855	3,495,855	0.031657588
Jul-12	134,019,462	135,176,122	-1,156,660	1,156,660	0.008630534
Aug-12	122,137,537	124,577,176	-2,439,640	2,439,640	0.01997453
Sep-12	100,247,713	98,368,179	1,879,534	1,879,534	0.0187489
Oct-12	95,198,440	95,708,608	-510,168	510,168	0.005358995
Nov-12	97,032,089	96,712,694	319,395	319,395	0.003291646
Dec-12	105,393,299	106,787,851	-1,394,551	1,394,551	0.013231878
Jan-13	110,317,098	108,991,277	1,325,821	1,325,821	0.012018272
Feb-13	99,792,260	100,302,482	-510,222	510,222	0.005112845
Mar-13	103,236,304	102,431,249	805,055	805,055	0.007798173
Apr-13	93,025,731	95,419,687	-2,393,956	2,393,956	0.025734345
May-13	96,420,692	96,547,152	-126,460	126,460	0.001311549
Jun-13	102,784,126	102,478,331	305,795	305,795	0.002975119
Jul-13	124,839,640	121,969,826	2,869,813	2,869,813	0.022987997
Aug-13	115,518,135	115,447,917	70,219	70,219	0.000607858
Sep-13	98,240,610	94,579,143	3,661,467	3,661,467	0.037270398
Oct-13	95,936,957	94,293,840	1,643,117	1,643,117	0.01712705
Nov-13	99,297,938	96,268,335	3,029,603	3,029,603	0.030510232
Dec-13	110,590,590	108,847,267	1,743,323	1,743,323	0.015763752

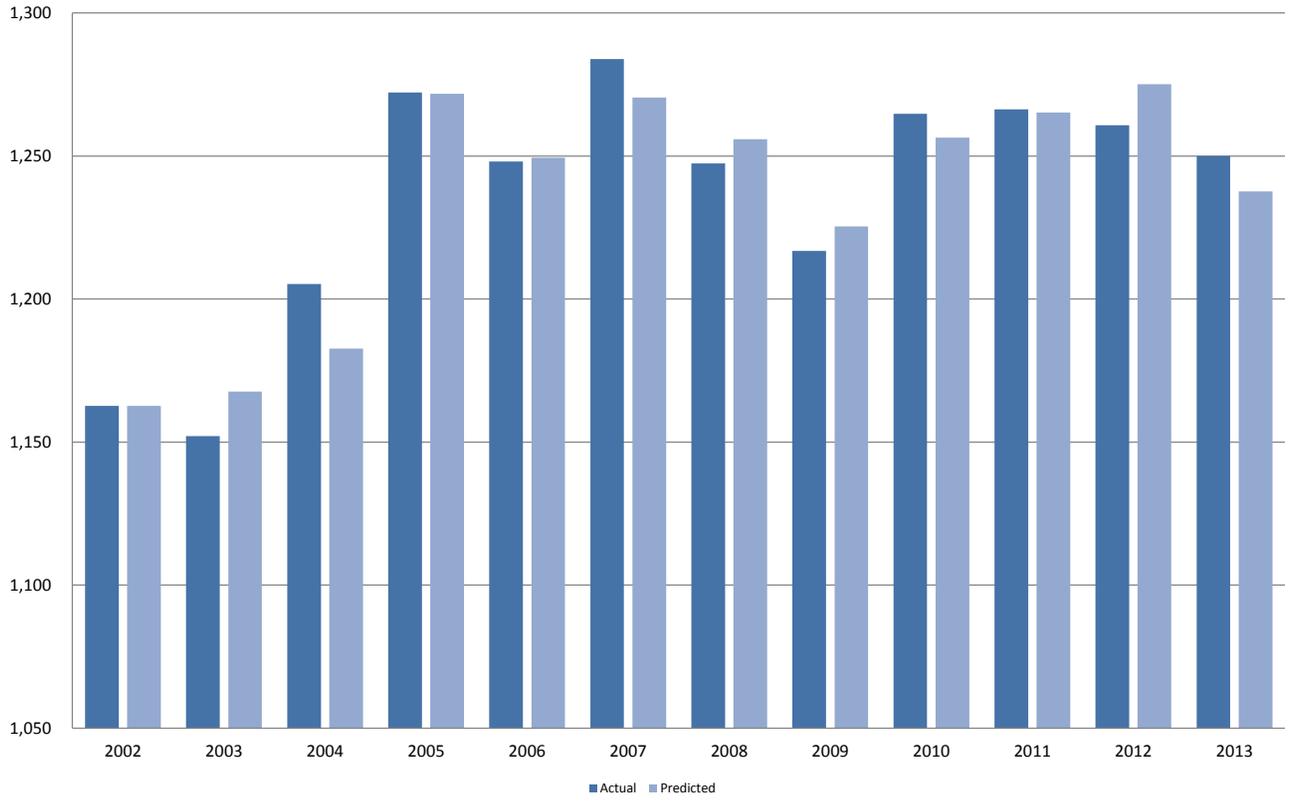
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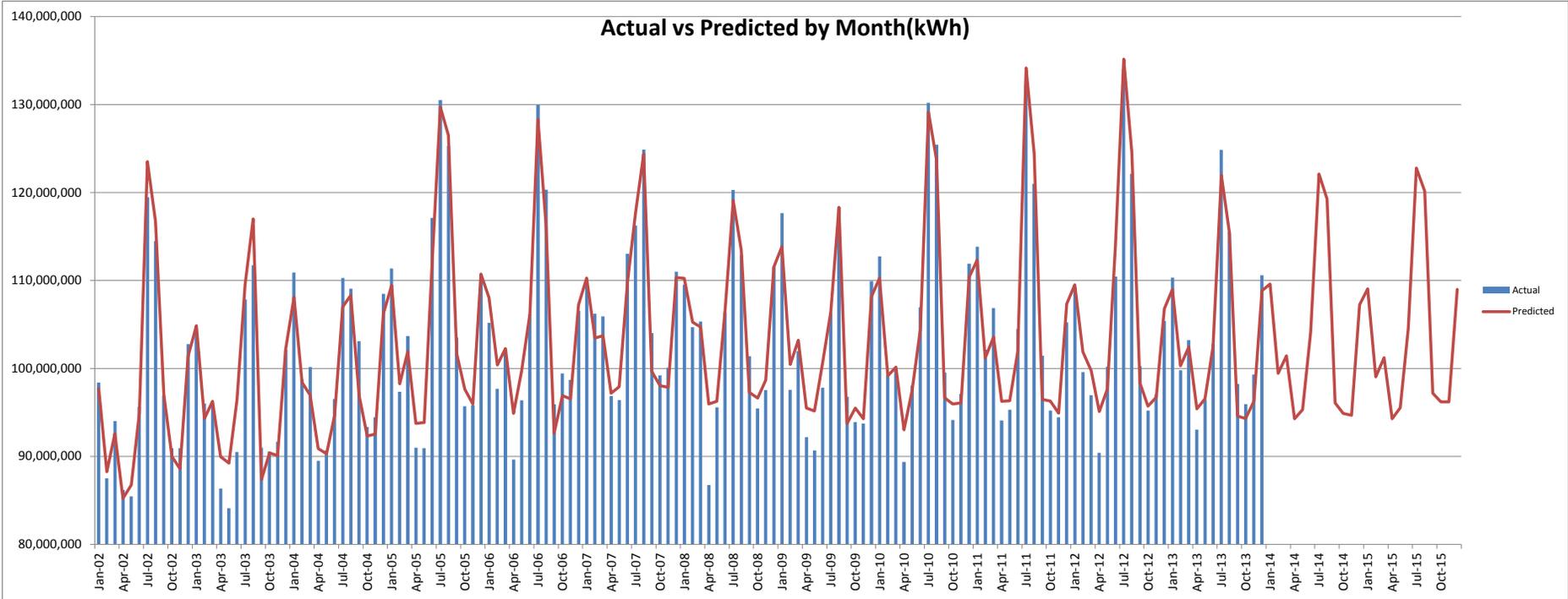
144

**MAPE**

**1.90%**

**Actual vs. Predicted (GWh)**







File Number:EB-2014-0096

Exhibit: 3

Tab: 1

Schedule: 1

Date Filed:September 23, 2014

## Attachment 2 of 3

## OEB Appendix 2-I

## Appendix 2-I Load Forecast CDM Adjustment Work Form (2015)

The 2014 bridge year is the last year of the current four year (2011-2014) CDM program, and 2015 is the first year of a new six year (2015-2020) CDM program, per the Ministerial directives of March 31, 2014. Thus, with 2015, there is a need to recognize the final year of the current 2011-2014 CDM program, as well as to estimate reasonable impacts each year for the new 2015-2020 CDM program. These are combined to estimate the adjustment for CDM program impacts on the 2015 load forecast.

Appendix 2-I was developed to help determine what would be the amount of CDM savings needed in each year to cumulatively achieve the four year 2011-2014 CDM target. This then determined the amount of kWh (and with translation, kW of demand) savings that were converted in dollars balances for the LRAMVA, and also to determine the related adjustment to the load forecast to account for OPA-reported savings. Beginning for the 2015 year, it has been adjusted because of the persistence of 2011-2014 CDM programs will be an adjustment to the load forecast in addition to the estimated savings for the first year (2015) for the new 2015-2020 CDM plan.

It is assumed that the new six year (2015-2020) CDM program will work similar to the existing 2011-2014 CDM program, meaning that distributors will offer programs each year that, cumulatively over the six years (from January 1, 2015 to December 31, 2020) will cumulatively achieve the new six year CDM target. This is the approach contemplated in the Ministerial directive letters of March 31, 2014 to the Board and to the OPA. Thus, distributors will be able to offer programs on a basis so that cumulatively over the period, the impacts, including persistence, of the CDM programs will accumulate towards achieving each distributor's 2015-2020 CDM target.

With this approach, it is necessary to account for estimated savings for the last year of the current program, particularly the estimated savings for new CDM programs offered in 2014, as well as the estimated savings for new CDM programs that the distributor will offer in 2015 towards achievement of the new six year (2015-2020) CDM program. This necessitates expansion of this Appendix 2-I to deal with both the 2011-2014 and 2015-2020 CDM plans. It is expected that this approach will be updated each year.

### 2011-2014 CDM Program - 2014, last year of the current CDM plan

Input the 2011-2014 CDM target in Cell B21.

Input the measured results for 2011 CDM programs for each of the years 2011 and persistence into 2012, 2013 and 2014 into cells B31 to E31. These results are taken from the final 2011 CDM Report issued by the OPA for that distributor in the fall of 2012.

Measured results for 2012 CDM programs for each of the years 2012 and persistence into 2013 and 2014 are input into cells C32 to E32. These results are taken from the final 2012 CDM Report issued by the OPA for that distributor in the fall of 2013.

Measured results for 2013 CDM programs for each of the years 2013 and persistence into 2014 are input into cells C33 to E33. These results are taken from the final 2013 CDM Report issued by the OPA for that distributor in the fall of 2014. Until that report is issued, the distributor should use the results from the preliminary 2013 CDM Report issued in the spring of 2014.

Based on these inputs, the residual kWh to achieve the 4 year CDM target icalculated for 2014 CDM under the assumption that the distributor will at least achieve the 2011-2014 CDM target that is currently a condition of the utility's Distribution Licence. If the distributor has met its cumulative kWh savings target by the end of 2013, the incremental savings for 2014 are assumed to be zero. Any further savings for 2014 CDM savings and any further compensation for meeting or exceeding the four-year (2011-2014) targets will be dealt with through the disposition of the 2011-2014 LRAMVA balance, which will occur in the next cost of service application filed after the final 2014 CDM Reports issued by the OPA in the fall of 2015.

4 Year (2011-2014) kWh Target:					
	58,000,000				
	2011	2012	2013	2014	Total
2011 CDM Programs	8.67%	8.67%	8.45%	7.93%	33.71%
2012 CDM Programs		9.68%	9.68%	9.48%	28.85%
2013 CDM Programs			12.48%	12.48%	24.96%
2014 CDM Programs				12.48%	12.48%
<b>Total in Year</b>	<b>8.67%</b>	<b>18.35%</b>	<b>30.61%</b>	<b>42.37%</b>	<b>100.00%</b>
	kWh				
2011 CDM Programs	5,026,978.00	5,026,978.00	4,900,000.00	4,600,000.00	19,553,956.00
2012 CDM Programs		5,615,949.00	5,615,949.00	5,500,000.00	16,731,898.00
2013 CDM Programs			7,238,048.67	7,238,048.67	14,476,097.33
2014 CDM Programs				7,238,048.67	7,238,048.67
<b>Total in Year</b>	<b>5,026,978.00</b>	<b>10,642,927.00</b>	<b>17,753,997.67</b>	<b>24,576,097.33</b>	<b>58,000,000.00</b>

## 2015-2020 CDM Program - 2015, first year of the current CDM plan

For the first year of the new 2015-2020 CDM plan, it is assumed that each year's program will achieve an equal amount of new CDM savings. The new targets for 2015-2020 do not take into account persistence beyond the first year, but the OPA will encourage distributors to promote and implement CDM plans that will have longer term persistence of savings. This results in each year's program being about 1/6 (16.67%) of the cumulative 2015-2020 CDM target for kWh savings. A distributor may propose an alternative approach but would be expected to document in its application why it believes that its proposal is more reasonable. In its proposal, the distributor should ensure that the sum of the results for each year's CDM program from 2015 to 2020 add up to its 2015-2020 CDM target as

6 Year (2015-2020) kWh Target:							
17,400,000							
	2015	2016	2017	2018	2019	2020	Total
	%						
2015 CDM Programs	16.67%						16.67%
2016 CDM Programs		16.67%					16.67%
2017 CDM Programs			16.67%				16.67%
2018 CDM Programs				16.67%			16.67%
2019 CDM Programs					16.67%		16.67%
2020 CDM Programs						16.67%	16.67%
<b>Total in Year</b>	<b>16.67%</b>	<b>16.67%</b>	<b>16.67%</b>	<b>16.67%</b>	<b>16.67%</b>	<b>16.67%</b>	<b>100.00%</b>
kWh							
2015 CDM Programs	2,900,000.00						2,900,000.00
2016 CDM Programs		2,900,000.00					2,900,000.00
2017 CDM Programs			2,900,000.00				2,900,000.00
2018 CDM Programs				2,900,000.00			2,900,000.00
2019 CDM Programs					2,900,000.00		2,900,000.00
2020 CDM Programs						2,900,000.00	2,900,000.00
<b>Total in Year</b>	<b>2,900,000.00</b>	<b>2,900,000.00</b>	<b>2,900,000.00</b>	<b>2,900,000.00</b>	<b>2,900,000.00</b>	<b>2,900,000.00</b>	<b>17,400,000.00</b>

### Determination of 2015 Load Forecast Adjustment

The Board has determined that the "net" number should be used in its Decision and Order with respect to Centre Wellington Hydro Ltd.'s 2013 Cost of Service rates (EB-2012-0113). This approach has also been used in Settlement Agreements accepted by the Board in other 2013 and 2-14 applications. The distributor should select whether the adjustment is done on a "net" or "gross" basis, but must support a proposal for the adjustment being done on a "gross" basis. Sheet 2-1 defaults to the adjustment being done on a "net" basis consistent with Board policy and practice.

From each of the 2006-2010 CDM Final Report, and the 2011, 2012 and 2013 CDM Final Reports, issued by the OPA for the distributor, the distributor should input the "gross" and "net" results of the cumulative CDM savings for 2014 into cells D31 to E33. The model will calculate the cumulative savings for all programs from 2006 to 2012 and determine the "net" to "gross" factor "g".

Net-to-Gross Conversion					
Is CDM adjustment being done on a "net" or "gross" basis?					net
	"Gross" kWh	"Net" kWh	Difference kWh	Conversion Factor ( 'g')	
Persistence of Historical CDM programs to 2014					
2006-2010 CDM programs					
2011 CDM program					
2012 CDM program					
2013 CDM program					
<b>2006 to 2013 OPA CDM programs: Persistence to 2015</b>	0	0	0	0.00%	

The default values represent the factor that each year's CDM program is factored into the manual CDM adjustment. Distributors can choose alternative weights of "0", "0.5" or "1" from the drop-down menu for each cell, but must support its alternatives.

These factors do not mean that CDM programs are excluded, but also reflect the assumption that impacts of 2011 and 2012 programs are already implicitly reflected in the actual data for those years that are the basis for the load forecast prior to any manual CDM adjustment.

**Weight Factor for Inclusion in CDM Adjustment to 2014 Load Forecast**

	2011	2012	2013	2014	2015	
<b>Weight Factor for each year's CDM program impact on 2015 load forecast</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0.5</b>	Distributor can select "0", "0.5", or "1" from drop-down list
<b>Default Value selection rationale.</b>	Full year persistence of 2011 CDM programs on 2015 load forecast. Full impact assumed because of 50% impact in 2011 (first year) but full year persistence impact on 2012 and 2013, and thus reflected in base forecast before the CDM adjustment.	Full year persistence of 2012 CDM programs on 2015 load forecast. Full impact assumed because of 50% impact in 2012 (first year) but full year persistence impact on 2013, and thus reflected in base forecast before the CDM adjustment.	Full year impact of persistence of 2013 CDM programs on 2015 load forecast, but 50% impact in base forecast (first year impact of 2013 CDM programs on 2013 load forecast, which is part of the data for the load forecast.	Full year impact of persistence of 2014 programs on 2015 load forecast. 2014 CDM programs not in base forecast.	Only 50% of 2015 CDM programs are assumed to impact the 2015 load forecast based on the "half-year" rule.	

**2011-2014 and 2015-2020 LRAMVA and 2015 CDM adjustment to Load Forecast**

One manual adjustment for CDM impacts to the 2015 load forecast is made. However, the distributor will have two associated annualized CDM impacts, one for the 2011-2014 CDM program and the second for the 2015-2020 CDM plan. In addition, the distributor needs to reflect the CDM adjustment that was explicitly factored into its 2011 load forecast in its 2011 cost of service application (assuming that it rebased in that year). this amount, and equal persistence for 2012, 2013 and 2014 is used as an offset to determine what the net balance of the 2011-2014 LRAMVA balance should be for disposition.

The Amount used for the CDM threshold of the LRAMVA is the kWh that will be used to determine the base amount for the LRAMVA balance for 2014, for assessing performance against the four-year target. The base amount for 2011-2013 is 0 (zero) for 2014 Cost of Service applications, as the utility rebased prior to the 2011-2014 CDM programs, and there was no adjustment to reflect the impacts of the 2011-2014 programs on the load forecast used to determine their last cost of service-based rates.

The proposed loss factor should correspond with the loss factor calculated in Appendix 2-R

The Manual Adjustment for the 2015 Load Forecast is the amount manually subtracted from the load forecast derived from the base forecast from historical data, and is intended to reflect the further CDM savings that the distributor needs to achieve assuming that they meet 100% of the 2011-2014 CDM target that is a condition of their target.

If the distributor has developed their load forecast on a system purchased basis, then the manual adjustment should be on system purchased basis, including the adjustment for losses. If the load forecast has been developed on a billed basis, either on a system basis or on a class-specific basis, the manual adjustment should be on a billed basis, excluding losses.

The distributor should determine the allocation of the savings to all customer classes in a reasonable manner (e.g. taking into account what programs and what OPA-measured impacts were directed at specific customer classes), for both the LRAMVA and for the load forecast adjustment.

	2011	2012	2013	2014 kWh	2015	Total for 2014	Total for 2015
Amount used for CDM threshold for LRAMVA (2015)	4,600,000.00	5,500,000.00	7,238,048.67	7,238,048.67		24,576,097.33	
2011 CDM adjustment (per Board Decision in 2011 Cost of Service Application)	5,800,000.00	5,800,000.00	5,800,000.00	5,800,000.00		23,200,000.00	
Amount used for CDM threshold for LRAMVA (2015)					2,900,000.00		2,900,000.00
Manual Adjustment for 2015 Load Forecast (billed basis)	-	-	-	7,238,048.67	1,450,000.00		8,688,048.67
Proposed Loss Factor (TLF)	4.79%	Format: X.XX%					
Manual Adjustment for 2015 Load Forecast (system purchased basis)	-	-	-	7,584,751.20	1,519,455.00		9,104,206.20

*Manual adjustment uses "gross" versus "net" (i.e. numbers multiplied by (1 + g)). The Weight factor is also used calculate the impact of each year's program on the CDM adjustment to the 2014 load forecast.*



File Number:EB-2014-0096

Exhibit: 3

Tab: 1

Schedule: 1

Date Filed:September 23, 2014

## Attachment 3 of 3

## OEB Appendix 2-IA

## Appendix 2-IA Summary and Variances of Actual and Forecast Data

Replace "Rate Class #" with the appropriate rate classification.

	2011 Board Approved	2011	2012	2013	2014 Bridge	2015 Test
<b>Residential</b>						
# of Customers	46,900	45,996	45,871	46,274	46,669	47,067
kWh	462,790,265	418,849,931	414,592,237	412,298,278	402,178,821	399,166,843
kW						
<b>Variance Analysis</b>						
# of Customers	46,900	-1.93%	-2.19%	-1.33%	-0.49%	0.36%
kWh	462,790,265	-9.49%	-10.41%	-10.91%	-13.10%	-13.75%
kW	-	0.00%	0.00%	0.00%	0.00%	0.00%
<b>General Service &lt; 50 kW</b>						
# of Customers	4,352	4,307	4,260	4,315	4,350	4,385
kWh	122,331,880	129,680,926	125,465,897	124,179,905	120,510,242	118,740,733
kW						
<b>Variance Analysis</b>						
# of Customers	4,352	-1.03%	-2.11%	-0.85%	-0.04%	0.77%
kWh	122,331,880	6.01%	2.56%	1.51%	-1.49%	-2.94%
kW	-	0.00%	0.00%	0.00%	0.00%	0.00%
<b>General Service &gt; 50 kW</b>						
# of Customers	848	859	855	863	863	862
kWh	628,090,148	675,128,624	664,095,955	655,968,805	651,859,447	657,957,068
kW	1,818,411	1,793,543	1,761,221	1,721,554	1,723,755	1,739,879
<b>Variance Analysis</b>						
# of Customers	848	1.30%	0.83%	1.77%	1.72%	1.65%
kWh	628,090,148	7.49%	5.73%	4.44%	3.78%	4.76%
kW	1,818,411	-1.37%	-3.15%	-5.33%	-5.21%	-4.32%
<b>Unmetered Scattered Load</b>						
# of Connections	465	424	384	422	422	422
kWh	2,335,428	1,798,316	2,264,271	2,247,877	2,231,402	2,215,047
kW						
<b>Variance Analysis</b>						
# of Connections	465	-8.82%	-17.42%	-9.25%	-9.34%	-9.35%
kWh	2,335,428	-23.00%	-3.05%	-3.75%	-4.45%	-5.15%
kW	-	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Sentinel Lighting</b>						
# of Connections	560	369	343	337	320	303
kWh	292,817	246,192	267,435	265,619	262,521	259,459
kW	809	679	721	716	713	705
<b>Variance Analysis</b>						
# of Connections	560	-34.11%	-38.75%	-39.82%	-42.94%	-45.89%
kWh	292,817	-15.92%	-8.67%	-9.29%	-10.35%	-11.39%
kW	809	-16.07%	-10.88%	-11.47%	-11.82%	-12.85%
<b>Street Lighting</b>						
# of Connections	12,408	12,540	12,507	12,702	12,845	12,989
kWh	7,467,591	7,294,838	7,329,519	7,344,781	7,411,072	7,477,962
kW	20,107	20,391	21,037	20,809	20,995	21,184
<b>Variance Analysis</b>						
# of Connections	12,408	1.06%	0.80%	2.37%	3.52%	4.68%
kWh	7,467,591	-2.31%	-1.85%	-1.64%	-0.76%	0.14%
kW	20,107	1.41%	4.63%	3.49%	4.42%	5.36%

**File Number:** EB-2014-0096  
**Exhibit:** 3  
**Tab:** 1  
**Schedule:** 1  
**Attachment:** 2  
  
**Date:** 29-Aug-14

**Appendix 2-IA**  
**Summary and Variances of Actual and Forecast Data**

**Totals**

<b>Customers / Connections</b>	65,533	64,495	64,220	64,913	65,467	66,028
<b>kWh</b>	1,223,308,129	1,232,998,827	1,214,015,314	1,202,305,265	1,184,453,504	1,185,817,112
<b>kW from applicable classes</b>	1,839,327	1,814,613	1,782,979	1,743,079	1,745,463	1,761,769

**Totals - Variance**

<b>Customers / Connections</b>	65,533	-1.58%	-2.00%	-0.95%	-0.10%	0.76%
<b>kWh</b>	1,223,308,129	0.79%	-0.76%	-1.72%	-3.18%	-3.06%
<b>kW from applicable classes</b>	1,839,327	-1.34%	-3.06%	-5.23%	-5.10%	-4.22%



File Number: EB-2014-0096

Date Filed: September 23, 2014

## Exhibit 3

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Tab 2 of 4

# Accuracy of Load Forecast and Variance Analyses

## Accuracy of Load Forecast and Variance Analyses

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Provided below is the analysis of the accuracy of the historical load forecast covering Board approved 2011, historical actuals from 2010 to 2013, and the forecasted 2014 Bridge Year and 2015 Test Years. The analysis has been completed on the following basis:

- Distribution Revenues;
- Billing Determinants (Customer/Connection counts, billed kWh and billed kW);
- Weather-normalized average historical actual consumption per customer;
- Distribution Revenue calculated on basis of existing and proposed rates.

Table 3-32 below shows the details of NPEI's distribution revenue by for the years: 2011 Board Approved, 2010 Actual to 2013 Actual, 2014 Bridge and 2015 Test. The distribution revenue is presented by rate class, for both fixed and volumetric revenue. Table 3-32 also includes customer/connection counts, and billed kWh or kW for volumetric distribution revenue, as appropriate for each rate class. The Residential, GS< 50 kW and Unmetered Scattered Load rate classes are billed distribution volumetric revenue based on kWh, and the GS>50 kW, Sentinel Lights and Street lighting classes are billed distribution volumetric revenue based on kW.

**Table 3-32: Details of Distribution Revenue**

	2010 Actual	2011 Board Approved	2011 Actual	2011 Actual vs 2010 Actual		2011 Actual vs 2011 Board Approved		2012 Actual	2012 Actual vs 2011 Actual	
				\$	%	\$	%		\$	%
<b>Throughput Revenue Gross(\$)</b>	25,745,718	29,818,865	26,969,849	1,224,131	4.8%	(2,849,016)	-9.6%	27,390,461	420,612	1.6%
Add back: PILS Rate rider refund				-	0.0%	-	0.0%	365,815	365,815	0.0%
<b>Distribution Revenue</b>	25,745,718	29,818,865	26,969,849	1,224,131	4.8%	(2,849,016)	-9.6%	27,756,275	786,426	2.9%
<b>Fixed Charge</b>										
Residential	7,626,759	9,186,185	8,148,585	521,826	6.8%	(1,037,600)	-11.3%	8,558,546	409,961	5.0%
GS<50 kW	1,697,711	1,980,456	1,816,906	119,195	7.0%	(163,550)	-8.3%	1,865,780	48,874	2.7%
GS>50 kW	2,136,122	2,236,903	1,936,524	(199,598)	-9.3%	(300,379)	-13.4%	1,796,865	(139,659)	-7.2%
Unmetered Scattered Load	128,953	109,370	92,298	(36,655)	-28.4%	(17,072)	-15.6%	105,090	12,793	13.9%
Sentinel Lights	4,816	47,637	18,664	13,849	287.6%	(28,972)	-60.8%	36,993	18,329	98.2%
Streetlighting	56,737	117,542	90,368	33,631	59.3%	(27,174)	-23.1%	132,314	41,946	46.4%
<b>Total Fixed Revenue</b>	11,651,098	13,678,092	12,103,346	452,247	3.9%	(1,574,747)	-11.5%	12,495,589	392,243	3.2%
<b>Volumetric Charge</b>										
Residential (kWh)	5,963,663	7,561,990	6,385,201	421,538	7.1%	(1,176,790)	-15.6%	6,567,690	182,489	2.9%
GS<50 kW (kWh)	1,611,961	1,684,624	1,719,879	107,918	6.7%	35,255	2.1%	1,689,256	(30,623)	-1.8%
GS>50 kW (kWh)	6,458,716	6,792,745	6,680,300	221,584	3.4%	(112,445)	-1.7%	6,891,972	211,672	3.2%
Unmetered Scattered Load (kWh)	29,632	31,988	29,632	-	0.0%	(2,356)	-7.4%	33,027	3,395	11.5%
Sentinel Lights (kW)	479	7,162	3,579	3,100	647.1%	(3,584)	-50.0%	7,647	4,068	113.7%
Streetlighting (kW)	30,168	62,263	47,913	17,745	58.8%	(14,350)	-23.0%	71,095	23,182	48.4%
<b>Total Volumetric Revenue</b>	14,094,620	16,140,773	14,866,503	771,884	5.5%	(1,274,269)	-7.9%	15,260,687	394,183	2.7%
<b>Total (Fixed and Variable)</b>	25,745,718	29,818,865	26,969,849	1,224,131	4.8%	(2,849,016)	-9.6%	27,756,275	786,426	2.9%
<b>Billed kWh</b>				kWh	%	kWh	%		kWh	%
Residential	451,343,387	462,790,265	418,849,931	(32,493,456)	-7.2%	(43,940,334)	-9.5%	414,592,237	(4,257,694)	-1.0%
GS<50	121,294,614	122,331,880	129,680,926	8,386,312	6.9%	7,349,046	6.0%	125,465,897	(4,215,029)	-3.3%
Unmetered Scattered Load	2,345,772	2,335,428	1,798,316	(547,456)	-23.3%	(537,112)	-23.0%	2,264,271	465,955	25.9%
<b>Total Billed kWh</b>	574,983,772	587,457,573	550,329,173	(24,654,599)	-4.3%	(37,128,400)	-6.3%	542,322,405	(8,006,768)	-1.5%
<b>Billed kW</b>				kW	%	kW	%		kW	%
GS>50	1,769,836	1,818,411	1,793,543	23,707	1.3%	(24,868)	-1.4%	1,761,221	(32,322)	-1.8%
Sentinel Lights	653	809	679	26	4.0%	(130)	-16.1%	721	42	6.2%
Streetlighting	19,656	20,107	20,391	735	3.7%	284	1.4%	21,037	646	3.2%
<b>Total Billed kW</b>	1,790,145	1,839,327	1,814,613	24,468	1.4%	(24,714)	-1.3%	1,782,979	(31,634)	-1.7%
<b>Number of Customers or Connections</b>				#	%	#	%		#	%
Residential	45,840	46,900	45,996	156	0.3%	(904)	-1.9%	45,871	(125)	-0.3%
GS<50	4,357	4,352	4,307	(50)	-1.1%	(45)	-1.0%	4,260	(47)	-1.1%
GS>50	851	848	859	8	0.9%	11	1.3%	855	(4)	-0.5%
Unmetered Scattered Load	465	465	424	(41)	-8.8%	(41)	-8.8%	384	(40)	-9.4%
Sentinel Lights	417	560	369	(48)	-11.5%	(191)	-34.1%	343	(26)	-7.0%
Streetlighting	12,334	12,408	12,540	206	1.7%	132	1.1%	12,507	(33)	-0.3%
<b>Total Customers/Connections</b>	64,264	65,533	64,495	231	0.4%	(1,038)	-1.6%	64,220	(275)	-0.4%

	2013 Actual	2013 Actual vs 2012 Actual		2014 Bridge Year	2014 Bridge Year vs 2013 Actual		2015 Test Year	2015 Test Year vs 2014 Bridge Year	
		\$	%		\$	%		\$	%
<b>Throughput Revenue Gross(\$)</b>	26,338,400	(1,052,061)	-3.8%	27,776,156	1,437,756	5.5%	29,374,853	1,598,697	5.8%
Add back: PILS Rate rider refund	1,554,749	1,188,935	325.0%	508,239	(1,046,510)	-67.3%		(508,239)	-100.0%
<b>Distribution Revenue</b>	27,893,149	136,874	0.5%	28,284,395	391,246	1.4%	29,374,853	1,090,458	3.9%
<b>Fixed Charge</b>									
Residential	8,746,789	188,243	2.2%	8,993,974	247,185	2.8%	11,273,383	2,279,410	25.3%
GS<50 kW	1,916,108	50,328	2.7%	1,972,774	56,665	3.0%	2,441,279	468,505	23.7%
GS>50 kW	1,826,562	29,697	1.7%	1,858,885	32,323	1.8%	1,647,013	(211,871)	-11.4%
Unmetered Scattered Load	102,683	(2,407)	-2.3%	98,798	(3,885)	-3.8%	101,871	3,072	3.1%
Sentinel Lights	47,547	10,554	28.5%	49,353	1,806	3.8%	55,489	6,136	12.4%
Streetlighting	162,658	30,344	22.9%	177,259	14,601	9.0%	185,594	8,336	4.7%
<b>Total Fixed Revenue</b>	12,802,347	306,758	2.5%	13,151,042	348,695	2.7%	15,704,629	2,553,587	19.4%
<b>Volumetric Charge</b>									
Residential (kWh)	6,555,755	(11,935)	-0.2%	6,475,079	(80,676)	-1.2%	6,070,649	(404,430)	-6.2%
GS<50 kW (kWh)	1,680,446	(8,810)	-0.5%	1,663,041	(17,405)	-1.0%	1,314,381	(348,660)	-21.0%
GS>50 kW (kW)	6,729,040	(162,932)	-2.4%	6,859,454	130,413	1.9%	6,142,529	(716,925)	-10.5%
Unmetered Scattered Load (kWh)	30,483	(2,544)	-7.7%	30,570	87	0.3%	31,293	723	2.4%
Sentinel Lights (kW)	10,108	2,462	32.2%	11,453	1,345	13.3%	13,422	1,969	17.2%
Streetlighting (kW)	84,970	13,875	19.5%	93,756	8,786	10.3%	97,949	4,193	4.5%
<b>Total Volumetric Revenue</b>	15,090,802	(169,884)	-1.1%	15,133,353	42,551	0.3%	13,670,224	(1,463,129)	-9.7%
<b>Total (Fixed and Variable)</b>	27,893,149	136,874	0.5%	28,284,395	391,246	1.4%	29,374,853	1,090,458	3.9%
<b>Billed kWh</b>		kWh	%		kWh	%		kWh	%
Residential	412,298,278	(2,293,959)	-0.6%	402,178,821	(10,119,457)	-2.5%	399,166,843	(3,011,977)	-0.7%
GS<50	124,179,905	(1,285,992)	-1.0%	120,510,242	(3,669,663)	-3.0%	118,740,733	(1,769,509)	-1.5%
Unmetered Scattered Load	2,247,877	(16,394)	-0.7%	2,231,402	(16,475)	-0.7%	2,215,047	(16,355)	-0.7%
<b>Total Billed kWh</b>	538,726,060	(3,596,345)	-0.7%	524,920,464	(13,805,596)	-2.6%	520,122,623	(4,797,841)	-0.9%
<b>Billed kW</b>		kW	%		kW	%		kW	%
GS>50	1,721,554	(39,667)	-2.3%	1,723,755	2,201	0.1%	1,739,879	16,124	0.9%
Sentinel Lights	716	(5)	-0.7%	713	(3)	-0.4%	705	(8)	-1.2%
Streetlighting	20,809	(228)	-1.1%	20,995	186	0.9%	21,184	189	0.9%
<b>Total Billed kW</b>	1,743,079	(39,900)	-2.2%	1,745,463	2,384	0.1%	1,761,769	16,306	0.9%
<b>Number of Customers or Connections</b>		#	%		#	%		#	%
Residential	46,274	403	0.9%	46,669	395	0.9%	47,067	398	0.9%
GS<50	4,315	55	1.3%	4,350	35	0.8%	4,385	35	0.8%
GS>50	863	8	0.9%	863	(0)	0.0%	862	(1)	-0.1%
Unmetered Scattered Load	422	38	9.9%	422	(0)	-0.1%	422	(0)	0.0%
Sentinel Lights	337	(6)	-1.7%	320	(17)	-5.2%	303	(17)	-5.2%
Streetlighting	12,702	195	1.6%	12,845	143	1.1%	12,989	144	1.1%
<b>Total Customers/Connections</b>	64,913	693	1.1%	65,467	554	0.9%	66,028	560	0.9%

1 **Variance Analysis on Distribution Revenue**

2

3 2011 Actual to 2011 Board Approved

4

5 Actual 2011 distribution revenue of \$26,969,849 was \$2,849,016 (9.6%) lower than the 2011  
6 Board Approved amount of \$29,818,865. This is largely due to the fact that NPEI's Board-  
7 approved 2011 rates (EB-2010-0138) were implemented on June 1, 2011. Therefore, the 2011  
8 actual distribution revenue is based on 5 months at 2010 rates, and 7 months at 2011 rates.

9

10 Another contributing factor is that the actual volumetric billing determinants in 2011 were lower  
11 than 2011 Board approved. For those classes that are billed volumetric distribution revenue on  
12 kWh, the total 2011 Actual billed kWh for volumetric revenue was 37,128,400 kWh (6.3%) lower  
13 than the 2011 Board Approved. For those classes that are billed volumetric distribution revenue  
14 on kW, the 2011 Actual billed kW total was 24,714 kW (1.3%) lower than 2011 Board Approved.

15

16 The total customer/connection counts for 2011 Actual was 1.6% lower than 2011 Board  
17 approved, mostly in Residential customers and Sentinel Light connections.

18

19 2011 Actual to 2010 Actual

20

21 Actual 2011 distribution revenue of \$26,969,849 was \$1,224,131 (4.8%) higher than the 2010  
22 Actual amount of \$25,745,718. The variance is largely due to the rate increases approved in  
23 NPEI's 2011 COS Application.

24

25 The Actual 2011 billed kWh for volumetric revenue was lower than 2010 Actual by 24,654,599  
26 kWh (4.3%). However, the 2011 Actual total customer / connection count and billed kW were  
27 both higher than 2010 Actual: total customer / connection count increased by 231 (0.4%) and  
28 billed kW increased by 24,468 kW (1.4%)

29

30

31

32

1 2012 Actual to 2011 Actual

2

3 Actual 2012 distribution revenue of \$27,756,246 was \$786,426 (2.9%) higher than the 2011  
4 Actual amount of \$26,969,849. The variance is largely due to 2011 Actual containing 5 months  
5 at 2010 rates, as mentioned above.

6

7 NPEI was approved for a price escalator rate increase of 0.88% as part of its 2012 IRM Rate  
8 Application (EB-2011-0185).

9

10 The Actual 2012 billing determinants were lower than 2011 Actual: billed kWh for volumetric  
11 revenue decreased by 8,006,768 kWh (1.5%), billed kW decreased by 31,634 kW (1.7%) and  
12 total customer/connections decreased by 275 (0.4%).

13

14 2013 Actual to 2012 Actual

15

16 Actual 2013 distribution revenue of \$27,893,149 was \$136,874 (0.5%) higher than the 2012  
17 Actual amount of \$27,756,275.

18

19 NPEI was approved for a price escalator rate increase of 0.48% as part of its 2013 IRM Rate  
20 Application (EB-2012-0150).

21

22 The Actual 2013 volumetric billing determinants were lower than 2012 Actual: billed kWh for  
23 volumetric revenue decreased by 3,596,345 kWh (0.7%) and billed kW decreased by 39,900  
24 kW (2.2%).

25

26 The Actual 2013 total customer/connection count was higher than the 2012 Actual by 693  
27 (1.1%), mostly in Residential customers and Street lighting connections.

28

29 2014 Bridge Year to 2013 Actual

30

31 Forecast 2014 Bridge Year distribution revenue of \$28,284,395 is \$391,246 higher (1.4%) than  
32 the 2013 Actual amount of \$27,893,149.

1 NPEI was approved for a price escalator rate increase of 1.4% as part of its 2014 IRM Rate  
2 Application (EB-2013-0154).

3

4 The Forecast 2014 billed kWh for volumetric revenue is 13,805,596 kWh (2.6%) lower than the  
5 Actual 2013 billed kWh.

6

7 The Forecast 2014 billed kW is 2,384 kW (0.1%) higher than the Actual 2013 billed kW.

8

9 The Forecast 2014 total customer/connection count is higher than the 2013 Actual by 554  
10 (0.9%), mostly in Residential customers and Street lighting connections.

11

12 2015 Test Year to 2014 Bridge Year

13

14 Forecast 2015 Test Year distribution revenue of \$29,374,853 is \$1,090,458 higher (3.9%) than  
15 the 2014 Bridge Year forecast amount of \$28,284,395. This is largely due to NPEI's calculated  
16 2015 revenue deficiency of \$1,003,773, which has been reflected in the 2015 proposed rates.

17

18 The Forecast 2015 billed kWh for volumetric revenue is 4,797,841 kWh (0.9%) lower than the  
19 Forecast 2014 billed kWh.

20

21 The Forecast 2015 billed kW is 16,306 kW (0.9%) higher than the Forecast 2014 billed kW.

22

23 The Forecast 2015 total customer/connection count is higher than the 2014 Forecast by 560  
24 (0.9%), mostly in Residential customers and Street lighting connections.

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## Variance Analysis on Customer / Connection Counts

Table 3-33 below shows actual customer / connection counts for 2011 Board Approved, the historical years 2010 to 2013, forecast 2014 Bridge Year and the forecast 2015 Test Year. All customer / connection data is given in year average format.

**Table 3-33: Customer / Connection Counts**

Year	Residential Customers	GS<50 Customers	GS>50 Customers	USL Connections	Sentinel Connections	Streetlighting Connections	Total Customers/Connections
2010	45,840	4,357	851	465	417	12,334	64,264
2011	45,996	4,307	859	424	369	12,540	64,494
2012	45,871	4,260	855	384	343	12,507	64,220
2013	46,274	4,315	863	422	337	12,702	64,913
2014 Bridge	46,669	4,350	863	422	320	12,845	65,467
2015 Test	47,067	4,385	862	422	303	12,989	66,028
<b>Annual Growth (# of customers / connections)</b>							
2010	79	100	-1	11	-149	198	238
2011	157	-50	8	-41	-48	205	230
2012	-125	-47	-3	-41	-26	-33	-274
2013	403	56	8	38	-6	195	693
2014 Bridge	395	35	0	0	-18	143	554
2015 Test	398	35	0	0	-17	144	560
<b>Annual Growth (%)</b>							
2010	0.2%	2.4%	-0.1%	2.4%	-26.3%	1.6%	0.4%
2011	0.3%	-1.1%	0.9%	-8.8%	-11.5%	1.7%	0.4%
2012	-0.3%	-1.1%	-0.4%	-9.6%	-7.0%	-0.3%	-0.4%
2013	0.9%	1.3%	0.9%	9.9%	-1.7%	1.6%	1.1%
2014 Bridge	0.9%	0.8%	0.0%	0.0%	-5.3%	1.1%	0.9%
2015 Test	0.9%	0.8%	0.0%	0.0%	-5.3%	1.1%	0.9%
2011 Board Approved	46,900	4,352	848	465	560	12,408	65,533
2011 Actual	45,996	4,307	859	424	369	12,540	64,494
Difference	-904	-45	11	-41	-191	132	-1,039
Difference %	-1.9%	-1.0%	1.2%	-8.8%	-34.1%	1.1%	-1.6%

1 Residential

2

3 The 2011 Actual residential customer count was 904 customers (1.9%) lower than 2011 Board  
4 Approved. In NPEI's 2011 COS Application, the forecast residential customer counts for 2010  
5 and 2011 were based on the geometric mean growth rate over the period 2003 to 2009, which  
6 was an increase of 1.2% per year. The actual growth in residential customers in 2010 and 2011  
7 was much less than forecast, at 0.2% and 0.3% respectively, followed by a decrease of 0.3% in  
8 2012 and then an increase of 0.9% in 2013.

9

10 NPEI calculates its monthly customer counts based on the amount of service charge revenue  
11 recorded in the general ledger each month, for each rate class, divided by the Board-approved  
12 monthly service charge in effect during that month. The annual values for each rate class are  
13 the averages of the monthly values. This method incorporates NPEI's unbilled revenue  
14 accruals. In investigating the decline in customer count from 2011 to 2012, NPEI notes that  
15 amount of unbilled service charge revenue accrued at December 2012 is lower than the  
16 December 2011 accrual. For the residential class, the difference in unbilled service charge  
17 revenue between 2012 and 2011 accounts for a decrease of 365 customers. The actual  
18 decrease was 125 customers.

19

20 NPEI is forecasting that the residential customer count will increase by 395 customers (0.9%) in  
21 2014 and 398 customers (0.9%) in 2015. Accordingly, the residential forecast is 46,669  
22 customers for the 2014 Bridge Year and 47,067 customers for the 2015 Test Year.

23

24 General Service < 50 kW

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26 The 2011 Actual GS<50 kW customer count was 45 customers (1.0%) lower than 2011 Board  
27 Approved. In NPEI's 2011 COS Application, the forecast GS<50 kW customer counts for 2010  
28 and 2011 were based on the geometric mean growth rate over the period 2003 to 2009, which  
29 was an increase of 1.1% per year. The actual growth in GS<50 kW customers in 2010 was  
30 2.4%, followed by a decrease of 1.1% in 2011, a decrease of 1.1% in 2012 and then an  
31 increase of 1.3% in 2013.

32

1 For the General Service < 50 kW class, the difference in unbilled service charge revenue  
2 between 2012 and 2011 accounts for a decrease of 67 customers. The actual decrease was 47  
3 customers.

4  
5 Changes in GS<50 kW customers numbers from year to year are due to several factors,  
6 including: reclassification of accounts to/from the GS>50 kW class, customer growth due to new  
7 construction, and loss of existing customers due to businesses closing.

8  
9 NPEI is forecasting that the GS<50 kW customer count will increase by 35 customers (0.8%) in  
10 each of 2014 and 2015. Accordingly, the GS<50 kW forecast is 4,350 customers for the 2014  
11 Bridge Year and 4,385 customers for the 2015 Test Year.

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15 General Service > 50 kW

16  
17 The 2011 Actual GS>50 kW customer count was 11 customers (1.2%) higher than 2011 Board  
18 Approved. In NPEI's 2011 COS Application, the forecast GS>50 kW customer counts for 2010  
19 and 2011 were based on the geometric mean growth rate over the period 2003 to 2009, which  
20 was a decrease of 0.2% per year. The actual change in GS>50 kW customers in 2010 was a  
21 decrease of 0.1% followed by an increase of 0.9% in 2011, a decrease of 0.4% in 2012 and  
22 then an increase of 0.9% in 2013.

23  
24 Changes in GS>50 kW customers numbers from year to year are due to several factors,  
25 including: reclassification of accounts to/from the GS<50 kW class, customer growth due to new  
26 construction, and loss of existing customers due to businesses closing.

27  
28 NPEI is forecasting that the GS>50 kW customer count will remain steady in 2014 at 863  
29 customers, and then decrease by one customer in 2015 to 862 customers.

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1 Unmetered Scattered Load

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3 The 2011 Unmetered Scattered Load connection count was 41 connections (8.8%) lower than  
4 2011 Board Approved. In NPEI's 2011 COS Application, the forecast Unmetered Scattered  
5 Load connection counts for 2010 and 2011 were based on the geometric mean growth rate over  
6 the period 2003 to 2009, which was an increase of 1.2% per year. The actual change in  
7 Unmetered Scattered Load connections in 2010 was an increase of 2.4% followed by a decrease  
8 of 8.8% in 2011. After an anomaly in 2012 (decrease of 9.6%), the Actual 2013 Unmetered  
9 Scattered Load connection count returned to almost the same level as 2011 Actual.

10

11 NPEI is forecasting that the Unmetered Scattered Load connection count will remain stable at  
12 the 2013 level (422 connections) throughout 2014 and 2015.

13

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17 Sentinel Lights

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19 The 2011 Sentinel Light connection count was 191 connections (34.1%) lower than 2011 Board  
20 Approved. In NPEI's 2011 COS Application, the forecast Sentinel Light connection counts for  
21 2010 and 2011 were based on the geometric mean growth rate over the period 2003 to 2009,  
22 which was a decrease of 0.5% per year. The actual decrease in Sentinel Light connections has  
23 been much greater than forecast, with the number of connections dropping from 417 in 2010 to  
24 337 in 2013.

25

26 NPEI anticipates that the Sentinel Light connection count will continue to decrease by  
27 approximately 5.3% per year, and is forecasting 320 connections for 2014 and 303 connections  
28 for 2015.

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1 Street lighting

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3 The 2011 Street lighting connection count was 132 connections (1.1%) higher than 2011 Board  
4 Approved. In NPEI's 2011 COS Application, the forecast Street lighting connection counts for  
5 2010 and 2011 were based on the geometric mean growth rate over the period 2003 to 2009,  
6 which was an increase of 1.1% per year. The actual increase in Street lighting connections in  
7 2010 and 2011 was 1.6% and 1.7% respectively. After an anomaly in 2012 (decrease of 0.3%),  
8 there was an increase of 1.6% in 2013.

9

10 NPEI anticipates that the number of Street lighting connections will continue to increase by  
11 approximately 1.1% per year, and is forecasting 12,845 connections for 2014 and 12,989  
12 connections for 2015.

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1 **Variance Analysis on Billed kWh Consumption**

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3 Table 3-34 below shows NPEI's actual billed kWh consumption for 2011 Board Approved, the  
4 historical years 2010 to 2013 and the weather normalized forecasts for the 2014 Bridge Year  
5 and 2015 Test Year.

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**Table 3-34: Billed Consumption kWh**

Year	Residential	GS<50	GS>50	USL	Sentinel	Streetlighting	Total
2010	451,343,387	121,294,614	611,065,862	2,345,772	293,544	7,368,898	1,193,712,076
2011	418,849,931	129,680,926	675,128,624	1,798,316	246,192	7,294,838	1,232,998,827
2012	414,592,237	125,465,897	664,095,955	2,264,271	267,435	7,329,519	1,214,015,314
2013	412,298,278	124,179,905	655,968,805	2,247,877	265,619	7,344,781	1,202,305,265
2014 Bridge	402,178,821	120,510,242	651,859,447	2,231,402	262,521	7,411,072	1,184,453,504
2015 Test	399,166,843	118,740,733	657,957,068	2,215,047	259,459	7,477,962	1,185,817,112
<b>Annual Growth (kWh)</b>							
2010	12,390,470	1,363,638	18,093,581	-10,389	-729	97,388	31,933,958
2011	-32,493,456	8,386,312	64,062,762	-547,456	-47,352	-74,060	39,286,751
2012	-4,257,694	-4,215,029	-11,032,669	465,955	21,243	34,681	-18,983,513
2013	-2,293,959	-1,285,992	-8,127,150	-16,394	-1,816	15,262	-11,710,049
2014 Bridge	-10,119,457	-3,669,663	-4,109,358	-16,475	-3,098	66,291	-17,851,761
2015 Test	-3,011,977	-1,769,509	6,097,621	-16,355	-3,062	66,890	1,363,608
<b>Annual Growth (%)</b>							
2010	2.8%	1.1%	3.1%	-0.4%	-0.2%	1.3%	2.7%
2011	-7.2%	6.9%	10.5%	-23.3%	-16.1%	-1.0%	3.3%
2012	-1.0%	-3.3%	-1.6%	25.9%	8.6%	0.5%	-1.5%
2013	-0.6%	-1.0%	-1.2%	-0.7%	-0.7%	0.2%	-1.0%
2014 Bridge	-2.5%	-3.0%	-0.6%	-0.7%	-1.2%	0.9%	-1.5%
2015 Test	-0.7%	-1.5%	0.9%	-0.7%	-1.2%	0.9%	0.1%
2011 Board Approved	462,790,265	122,331,880	628,090,148	2,335,428	292,817	7,467,591	1,223,308,129
2011 Actual	418,849,931	129,680,926	675,128,624	1,798,316	246,192	7,294,838	1,232,998,827
Difference	-43,940,334	7,349,046	47,038,476	-537,112	-46,625	-172,753	9,690,698
Difference %	-9.5%	6.0%	7.5%	-23.0%	-15.9%	-2.3%	0.8%

8

9

10 Many factors may contribute to the year over year variances in billed kWh, including weather  
11 conditions, economic conditions and CDM initiatives. In order to facilitate variance analysis on  
12 billed kWh, Table 3-35 below provides a summary of some of the major factors that influence  
13 consumption levels.

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**Table 3-35: Summary of Weather and Economic Conditions**

<b>Summary of Weather and Economic Conditions</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Heating Degree Days	3,260	3,296	2,893	3,400	3,375	3,375
2010 - 2013 = Actual						
2014 - 2015 = 12 Year Average						
Cooling Degree Days	444	433	533	347	395	395
2010 - 2013 = Actual						
2014 - 2015 = 12 Year Average						
Ontario Real GDP Growth %	3.20%	1.80%	1.60%	1.50%	2.30%	2.40%
2010 - 2012 = Actual						
2013 - 2015 = Ontario Planning Projection						
CDM Savings (GWh)	14.23	17.86	23.16	30.18	36.44	36.52
2010 - 2012 = per Final OPA Report						
2013 - 2015 = Forecast						

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3

4 NPEI notes that the data included in this Table agree to the data used to derive the explanatory  
5 variables in NPEI's Weather Normalization Regression Model.

6

#### 7 2011 Actual to 2010 Actual

8

9 Billed consumption in 2011 was 39.29 GWh (3.3%) higher than 2010. NPEI notes that the  
10 increase in consumption in 2011 is largely in the GS>50 kW class (increase of 64.06 GWh or  
11 10.5%), offset by a decrease in Residential consumption (decrease of 32.49 GWh or 7.2%).

12

13 The higher level of consumption in the GS>50 kW class is partly due to an increase of 8  
14 customers in this class from 2010 to 2011, as shown in Table 3-34 above.

15

16 The decrease in consumption in the Residential class may be partly due to CDM initiatives, as  
17 well as consumer response to TOU billing. Although NPEI did not commence TOU billing until  
18 November 2011, NPEI began communicating with its customers on TOU implementation earlier  
19 in the year, including bill inserts, newspaper and radio advertisements, and several information  
20 sessions that were held in public locations throughout NPEI's service territory. Therefore,

1 NPEI's customers were aware of TOU billing earlier in 2011, and may have begun changing  
2 consumption patterns prior to actually receiving a TOU bill.

3

4 2012 Actual to 2011 Actual

5

6 Billed consumption in 2012 was 18.98 GWh (1.5%) lower than 2011, with decreases occurring  
7 in the Residential class (decrease of 4.26 GWh or 1.0%), the GS<50 kW class (decrease of  
8 4.21 GWh or 3.3%) and the GS>kW class (decrease of 11.03 GWh or 1.6%). NPEI notes that  
9 all of these decreases in consumption are partly due to corresponding decreases in the  
10 customer counts for each of these classes in 2012 (see Table 3-33 above).

11

12 Although the 2012 summer was hotter than 2011 (Cooling Degree Days of 533 versus 433 in  
13 2011), this is offset by a milder 2012 winter (Heating Degree Days of 2,893 versus 3,296 in  
14 2011).

15

16 A substantial increase in CDM savings (23.16 GWh in 2012 versus 17.86 GWh in 2011) was  
17 also a contributing factor to the lower level of 2012 consumption.

18

19 2013 Actual to 2012 Actual

20

21 Billed consumption in 2013 was 11.71 GWh (1.0%) lower than 2012. There was no significant  
22 increase or decrease in any of NPEI's rate class. Each rate class exhibited a percentage  
23 change in consumption for 2013 over 2012 within the range of -1.2% to 0.2%.

24

25 The 2013 winter was colder than 2012 (Heating Degree Days of 3,400 versus 2,893 in 2012),  
26 but the 2013 summer was not as hot as 2012 (Cooling Degree Days of 347 versus 533 in 2012.)

27

28 The results of CDM programs (30.18 GWh in 2013 versus 23.16 GWh in 2012) also contributed  
29 to the decrease in consumption in 2013.

30

31

32

1 2014 Forecast to 2013 Actual

2

3 Billed consumption in 2014 is forecast to decrease by 17.85 GWh (1.5%) over 2013 Actual. The  
4 2014 Forecast is based on NPEI's Weather Normalization Regression Model, which  
5 incorporates 12 year average weather conditions and also adjusts for forecast CDM impacts.

6

7

8 2015 Forecast to 2014 Forecast

9

10 Billed consumption in 2015 is forecast to increase by 1.36 GWh (0.1%) over 2014 Forecast. The  
11 2015 Forecast is based on NPEI's Weather Normalization Regression Model, which  
12 incorporates 12 year average weather conditions and also adjusts for forecast CDM impacts.

13

14

15 2011 Actual to 2011 Board Approved

16

17 Actual billed consumption in 2011 was 9.69 GWh (0.8%) higher than 2011 Board Approved.  
18 NPEI notes that the greater consumption in 2011 Actual is largely in the GS>50 kW class (47.04  
19 GWh or 7.5% higher than 2011 Board Approved), offset by a lower level of Residential  
20 consumption (43.94 GWh or 9.5% lower than 2011 Board Approved).

21

22 The higher level of consumption in the GS>50 kW class is partly due to an increase of 11  
23 customers in this class from 2011 Board Approved to 2011 Actual, as shown in Table 3-33  
24 above.

25

26 The decrease in consumption in the Residential class is partly due to a decrease of 904  
27 customers in this class from 2011 Board Approved to 2011 Actual, as shown in Table3-33  
28 above. Other factors contributing to a lower level of 2011 Actual consumption are CDM  
29 initiatives and the impact of TOU billing, as discussed above.

30

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1 **Variance Analysis on Billed kW Demand**

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3 Table 3-36 below shows NPEI's actual billed kW demand for 2011 Board Approved, the  
4 historical years 2010 to 2013 and the weather normalized forecasts for the 2014 Bridge Year  
5 and 2015 Test Year.

6

7

8

**Table 3-36: Billed Demand kW**

Year	GS>50	Sentinel	Streetlighting	Total
2010	1,769,836	653	19,656	1,790,145
2011	1,793,543	679	20,391	1,814,614
2012	1,761,221	721	21,037	1,782,980
2013	1,721,554	716	20,809	1,743,079
2014 Bridge	1,723,755	713	20,995	1,745,463
2015 Test	1,739,879	705	21,184	1,761,769
<b>Annual Growth (kW)</b>				
2010	16,645	-42	-663	15,940
2011	23,707	26	735	24,469
2012	-32,322	41	646	-31,635
2013	-39,667	-5	-229	-39,901
2014 Bridge	2,201	-3	186	2,384
2015 Test	16,124	-8	189	16,306
<b>Annual Growth (%)</b>				
2010	0.9%	-6.0%	-3.3%	0.9%
2011	1.3%	4.1%	3.7%	1.4%
2012	-1.8%	6.1%	3.2%	-1.7%
2013	-2.3%	-0.6%	-1.1%	-2.2%
2014 Bridge	0.1%	-0.4%	0.9%	0.1%
2015 Test	0.9%	-1.2%	0.9%	0.9%
2011 Board Approved	1,818,411	809	20,107	1,839,327
2011 Actual	1,793,543	679	20,391	1,814,614
Difference	-24,868	-130	284	-24,713
Difference %	-1.4%	-16.0%	1.4%	-1.3%

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1 General Service > 50 kW

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3 The year over year variances in historical actual billed kW for the GS>50 kW class generally  
4 align with the variances in billed kWh consumption for this class: an increase in billed kW from  
5 2010 to 2011, followed by decreases from 2011 to 2012 and from 2012 to 2013. As explained in  
6 the section on NPEI's Weather Normalized Load Forecast (Exhibit 3, Tab 1, Schedule 1), the  
7 process of determining the forecast kW demand involves first calculating the historical average  
8 ratio of kW to kWh. This ratio is then applied to the 2014 and 2015 forecast kWh consumption to  
9 determine the 2014 Bridge Year demand forecast of 1,723,755 kW and the 2015 Test Year  
10 demand forecast of 1,739,879 kW.

11

12 The 2011 Actual billed kW for the GS>50 kW class was 24,868 kW (1.4%) lower than the 2011  
13 Board Approved. This is due to a significant change in the ratio of billed kW to billed kWh for this  
14 class, which was used in NPEI's 2011 COS Application to derive the 2011 Board Approved kW.

15

16 Sentinel Lights

17

18 From 2010 to 2012, there were some fluctuations in billed kW for Sentinel Lights, which then  
19 remained relatively stable from 2012 to 2013. NPEI is forecasting that billed kW for Sentinel  
20 Lights will decrease by 0.4% and 1.2% in 2014 and 2015 respectively, resulting in a forecast of  
21 713 kW for the 2014 Bridge Year and 705 kW for the 2014 Test Year.

22

23 The 2011 Actual billed kW for the Sentinel Lights class was 130 kW (16.0%) lower than the  
24 2011 Board Approved. NPEI notes that Sentinel Lights had a corresponding decrease in both  
25 connections and billed kWh from 2011 Board Approved to 2011 Actual.

26

27 Street lighting

28

29 Factors that contribute to the year over year variances in Street lighting billed kW include the  
30 installation of new Street lighting connections due to new residential construction and  
31 increases/decreases in the number billable Street lighting connections (for example, seasonal  
32 decorative lighting). NPEI is forecasting that billed kW for Street lighting will increase by 0.9% in

1 each of 2014 and 2015, resulting in a forecast of 20,995 kW for the 2014 Bridge Year and  
2 21,184 kW for the 2014 Test Year.

3  
4 The 2011 Actual billed kW for the Street lighting class was 284 kW (1.4%) higher than the 2011  
5 Board Approved. NPEI notes that Street lighting had a corresponding increase in connections  
6 from 2011 Board Approved to 2011 Actual.

7  
8 **Weather Normalized Average Consumption per Customer**

9  
10 NPEI has employed the following procedure in order to determine the weather normalized  
11 consumption per customer for each of the historical years 2010 to 2013:

- 12
- 13 1. Begin with predicted kWh purchases from NPEI's Weather Normalization  
14 Regression Model.
  - 15 2. Adjust for the difference between actual Heating Degree Days and Cooling  
16 Degree Days and their respective 12 year averages, to arrive at weather  
17 normalized predicted purchases.
  - 18 3. Calculate the difference between the predicted purchases and the weather  
19 normalized predicted purchases to derive the weather sensitive purchased kWh.
  - 20 4. Divide the weather sensitive purchased kWh by NPEI's 5 year average loss  
21 factor, to determine the weather sensitive billed kWh.
  - 22 5. Allocate the weather sensitive billed kWh to each rate class, based on the  
23 percentage of weather sensitivity for each rate class.
  - 24 6. Add or subtract the weather sensitive billed kWh by rate class to the actual billed  
25 kWh to determine the weather normalized billed kWh by rate class.
  - 26 7. Divide the weather normalized billed kWh by rate class by the number of  
27 customers or connections to arrive at the weather normalized consumption per  
28 customer.

29  
30 Table 3-37 below shows the derivation of the weather sensitive billed kWh for each  
31 year.

**Table 3-37: Calculation of Weather Sensitive Billed kWh**

	<b>Calculation of Weather Sensitive kWh</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
a	Predicted Purchases (Actual Weather Data)	1,256,450,873	1,265,208,873	1,275,140,355	1,237,576,507
b	Actual HDD	3,260	3,296	2,893	3,400
c	12 Year Average HDD	3,375	3,375	3,375	3,375
d = c - b	Difference	116	80	482	(25)
e	HDD Regression Coefficient	23,655	23,655	23,655	23,655
f = d * e	Adjustment to Weather Normalize HDD	2,734,538	1,887,677	11,406,588	(586,672)
g	Actual CDD	444	433	533	347
h	12 Year Average CDD	395	395	395	395
i = h - g	Difference	(49)	(38)	(138)	48
j	CDD Regression Coefficient	192,327	192,327	192,327	192,327
k = i * j	Adjustment to Weather Normalize CDD	(9,422,400)	(7,345,273)	(26,558,699)	9,271,744
l = a + f + k	Predicted Purchases (Weather Normalized)	1,249,763,011	1,259,751,277	1,259,988,245	1,246,261,579
m = l - a	Difference (Weather Sensitive Purchased kWh)	(6,687,862)	(5,457,596)	(15,152,111)	8,685,072
n	Divide by Average Loss Factor	1.0424	1.0424	1.0424	1.0424
o = m / n	<b>Weather Sensitive Billed kWh</b>	<b>(6,415,753)</b>	<b>(5,235,543)</b>	<b>(14,535,617)</b>	<b>8,331,703</b>

Table 3-38 below shows the allocation of the weather sensitive billed kWh by rate class, and the resulting weather normalized billed kWh, for each of the historical years 2010 to 2013.

**Table 3-38: Weather Normalized Billed kWh by Rate Class**

<b>Billed kWh</b>	<b>Total</b>	<b>Residential</b>	<b>GS&lt;50</b>	<b>GS&gt;50</b>	<b>USL</b>	<b>Sentinel</b>	<b>Streetlighting</b>
2010 Actual (non weather normalized)	1,193,712,076	451,343,387	121,294,614	611,065,862	2,345,772	293,544	7,368,898
% Weather Sensitive		93.5%	93.5%	87.0%	0.0%	0.0%	0.0%
kWh that are Weather Sensitive	1,067,043,830	422,006,067	113,410,464	531,627,300	-	-	-
Weather Sensitive Billed kWh	(6,415,753)	(2,537,372)	(681,897)	(3,196,485)	-	-	-
<b>2010 Weather Normalized</b>	<b>1,187,296,323</b>	<b>448,806,016</b>	<b>120,612,717</b>	<b>607,869,377</b>	<b>2,345,772</b>	<b>293,544</b>	<b>7,368,898</b>
2011 Actual (non weather normalized)	1,232,998,827	418,849,931	129,680,926	675,128,624	1,798,316	246,192	7,294,838
% Weather Sensitive		93.5%	93.5%	87.0%	0.0%	0.0%	0.0%
kWh that are Weather Sensitive	1,100,238,254	391,624,685	121,251,666	587,361,903	-	-	-
Weather Sensitive Billed kWh	(5,235,543)	(1,863,567)	(576,983)	(2,794,993)	-	-	-
<b>2011 Weather Normalized</b>	<b>1,227,763,284</b>	<b>416,986,364</b>	<b>129,103,943</b>	<b>672,333,631</b>	<b>1,798,316</b>	<b>246,192</b>	<b>7,294,838</b>
2012 Actual (non weather normalized)	1,214,015,314	414,592,237	125,465,897	664,095,955	2,264,271	267,435	7,329,519
% Weather Sensitive		93.5%	93.5%	87.0%	0.0%	0.0%	0.0%
kWh that are Weather Sensitive	1,082,717,836	387,643,742	117,310,614	577,763,481	-	-	-
Weather Sensitive Billed kWh	(14,535,617)	(5,204,164)	(1,574,909)	(7,756,544)	-	-	-
<b>2012 Weather Normalized</b>	<b>1,199,479,697</b>	<b>409,388,073</b>	<b>123,890,988</b>	<b>656,339,411</b>	<b>2,264,271</b>	<b>267,435</b>	<b>7,329,519</b>
2013 Actual (non weather normalized)	1,202,305,265	412,298,278	124,179,905	655,968,805	2,247,877	265,619	7,344,781
% Weather Sensitive		93.5%	93.5%	87.0%	0.0%	0.0%	0.0%
kWh that are Weather Sensitive	1,072,299,961	385,498,890	116,108,211	570,692,860	-	-	-
Weather Sensitive Billed kWh	8,331,703	2,995,302	902,153	4,434,247	-	-	-
<b>2013 Weather Normalized</b>	<b>1,210,636,968</b>	<b>415,293,580</b>	<b>125,082,058</b>	<b>660,403,052</b>	<b>2,247,877</b>	<b>265,619</b>	<b>7,344,781</b>

1 Table 3-39 below shows the resulting weather normalized consumption per customer or  
 2 connection for the historical years 2010 to 2013, as well as the 2014 Bridge Year and the 2015  
 3 Test Year.

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 5  
 6 **Table 3-39: Weather Normalized Consumption per Customer**  
 7

Billed kWh	Residential	GS<50	GS>50	USL	Sentinel	Streetlighting	Total
2010 - Normalized	448,806,016	120,612,717	607,869,377	2,345,772	293,544	7,368,898	1,187,296,323
2011 - Normalized	416,986,364	129,103,943	672,333,631	1,798,316	246,192	7,294,838	1,227,763,284
2012 - Normalized	409,388,073	123,890,988	656,339,411	2,264,271	267,435	7,329,519	1,199,479,697
2013 - Normalized	415,293,580	125,082,058	660,403,052	2,247,877	265,619	7,344,781	1,210,636,968
2014 Bridge	402,178,821	120,510,242	651,859,447	2,231,402	262,521	7,411,072	1,184,453,504
2015 Test	399,166,843	118,740,733	657,957,068	2,215,047	259,459	7,477,962	1,185,817,112
<b>Number of Customers / Connections</b>							
2010	45,840	4,357	851	465	417	12,334	64,264
2011	45,996	4,307	859	424	369	12,540	64,494
2012	45,871	4,260	855	384	343	12,507	64,220
2013	46,274	4,315	863	422	337	12,702	64,913
2014 Bridge	46,669	4,350	863	422	320	12,845	65,467
2015 Test	47,067	4,385	862	422	303	12,989	66,028
<b>Normalized Consumption per Customer</b>							
2010	9,791	27,684	714,300	5,045	704	597	18,475
2011	9,066	29,977	783,138	4,241	667	582	19,037
2012	8,925	29,083	767,483	5,904	779	586	18,678
2013	8,975	28,985	765,477	5,332	787	578	18,650
2014 Bridge	8,618	27,702	755,685	5,293	822	577	18,092
2015 Test	8,481	27,076	762,866	5,255	857	576	17,959
2011 Board Approved	9,868	28,107	740,379	5,020	523	602	18,667
2011 Normalized	9,066	29,977	783,138	4,241	667	582	19,037
Difference	-802	1,870	42,759	-780	144	-20	370
Difference %	-8.1%	6.7%	5.8%	-15.5%	27.6%	-3.3%	2.0%

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 11 NPEI notes that the Residential and GS<50 kW classes generally display a decline in  
 12 consumption per customer over time. This is partly due to the results of CDM programs and  
 13 customer response to increasing commodity prices.

14  
 15 For the GS>50 kW class, the weather normalized consumption per customer increased from  
 16 2010 to 2011 as economic condition showed some improvement. From 2012 to 2014, there is a  
 17 slight declining trend, followed by a small increase in the 2015 forecast.

18

1 The usage per connection for Unmetered Scattered Load, Sentinel Lights and Street lighting  
 2 varies from year to year, depending on the specific mixture of connections in each rate class.

3

4 **Distribution Revenue calculated on basis of existing and proposed rates**

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6 Table 3-40 below shows the forecast 2014 distribution revenue, based on NPEI’s weather  
 7 normalized load forecast for 2014 and existing 2014 rates.

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**Table 3-40: Forecast Distribution Revenue for the 2014 Bridge Year**

Class	Annual kWh for Dx	Annual kW for Dx	Annualized Customers / Connections	Fixed Distribution Revenue	Variable Distribution Revenue	Distribution Revenue Including Transformer Ownership Allowance	Transformer Ownership Allowance	Distribution Revenue Excluding Transformer Ownership Allowance	% Dist Revenue
Residential	402,178,821		46,669	8,993,974	6,475,079	15,469,053		15,469,053	54.69%
GS<50 kW	120,510,242		4,350	1,972,774	1,663,041	3,635,815		3,635,815	12.85%
GS>50 kW		1,723,755	863	1,858,885	7,308,722	9,167,606	(449,268)	8,718,338	30.82%
Unmetered Scattered Load	2,231,402		422	98,798	30,570	129,369		129,369	0.46%
Sentinel Lights		713	320	49,353	11,453	60,806		60,806	0.21%
Streetlighting		20,995	12,845	177,259	93,756	271,015		271,015	0.96%
<b>Totals</b>	<b>524,920,464</b>	<b>1,745,463</b>	<b>65,467</b>	<b>13,151,042</b>	<b>15,582,621</b>	<b>28,733,663</b>	<b>(449,268)</b>	<b>28,284,395</b>	<b>100.00%</b>

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12 Table 3-41 below shows the forecast 2015 distribution revenue at existing rates, which is based  
 13 on NPEI’s weather normalized load forecast for 2015 and existing 2014 rates.

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**Table 3-41: 2015 Test Year at Existing Rates**

Class	Annual kWh for Dx	Annual kW for Dx	Annualized Customers / Connections	Fixed Distribution Revenue	Variable Distribution Revenue	Distribution Revenue Including Transformer Ownership Allowance	Transformer Ownership Allowance	Distribution Revenue Excluding Transformer Ownership Allowance	Dist Rev at Existing Rates %
Residential	399,166,843		47,067	9,070,668	6,426,586	15,497,254		15,497,254	54.62%
GS<50 kW	118,740,733		4,385	1,988,703	1,638,622	3,627,325		3,627,325	12.79%
GS>50 kW		1,739,879	862	1,857,576	7,377,089	9,234,664	(449,268)	8,785,396	30.97%
Unmetered Scattered Load	2,215,047		422	98,789	30,346	129,135		129,135	0.46%
Sentinel Lights		705	303	46,795	11,319	58,115		58,115	0.20%
Streetlighting		21,184	12,989	179,253	94,602	273,855		273,855	0.97%
<b>Totals</b>	<b>520,122,623</b>	<b>1,761,769</b>	<b>66,028</b>	<b>13,241,783</b>	<b>15,578,565</b>	<b>28,820,348</b>	<b>(449,268)</b>	<b>28,371,080</b>	<b>100.00%</b>

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19

1 Table 3-42 below shows the forecast 2015 distribution revenue at proposed rates, which is  
 2 based on NPEI's weather normalized load forecast for 2015 and proposed 2015 rates.

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4

**Table 3-42: 2015 Test Year at Proposed Rates**

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Class	Annual kWh for Dx	Annual kW for Dx	Annualized Customers / Connections	Fixed Distribution Revenue	Variable Distribution Revenue	Distribution Revenue Including Transformer Ownership Allowance	Transformer Ownership Allowance	Distribution Revenue Excluding Transformer Ownership Allowance	Dist Rev at Proposed Rates %
Residential	399,166,843		47,067	11,273,383	6,070,649	17,344,032		17,344,032	59.04%
GS<50 kW	118,740,733		4,385	2,441,279	1,314,381	3,755,660		3,755,660	12.79%
GS>50 kW		1,739,879	862	1,647,013	6,591,797	8,238,810	(449,268)	7,789,542	26.52%
Unmetered Scattered Load	2,215,047		422	101,871	31,293	133,163		133,163	0.45%
Sentinel Lights		705	303	55,489	13,422	68,911		68,911	0.23%
Streetlighting		21,184	12,989	185,594	97,949	283,544		283,544	0.97%
<b>Totals</b>	<b>520,122,623</b>	<b>1,761,769</b>	<b>66,028</b>	<b>15,704,629</b>	<b>14,119,492</b>	<b>29,824,121</b>	<b>(449,268)</b>	<b>29,374,853</b>	<b>100.00%</b>

6



File Number:EB-2014-0096

Exhibit: 3

Tab: 2

Schedule: 1

Date Filed:September 23, 2014

## Attachment 1 of 1

# Fixed Variable Revenue and Load Forecast Tables

RateMaker 2014 release 1.0 © Elenchus Research Associates

**F5 Fixed/Variable Revenue***Fixed / Variable Revenue for each customer class***FIXED / VARIABLE REVENUE SPLITS***(Excluding Low Voltage rate adder and Transformer Allowance recoveries)*

<b>2015 Projected Revenue at Existing Rates</b>	<b>Net Distribution Revenue (A)</b>	<b>Fixed Charge Revenue (B)</b>	<b>Fixed % (C)</b>	<b>Variable % (D)</b>	<b>Total % (E)</b>
Residential	15,497,254	9,070,668	58.53%	41.47%	54.62%
General Service < 50 kW	3,627,325	1,988,703	54.83%	45.17%	12.79%
General Service > 50	8,785,396	1,857,576	21.14%	78.86%	30.97%
Unmetered Scattered Load	129,135	98,789	76.50%	23.50%	0.46%
Sentinel Lighting	58,115	46,795	80.52%	19.48%	0.20%
Street Lighting	273,855	179,253	65.46%	34.54%	0.97%
<b>TOTAL</b>	<b>28,371,080</b>	<b>13,241,783</b>	<b>46.67%</b>	<b>53.33%</b>	<b>100.00%</b>

*(A) per sheet "Net Distribution Revenue"**(B) per sheet C4**(C) = (B) / (A)**(D) = 1 - (C)**(E) Class Revenue from column (A) divided by Total from column (A)*

<b>2015 Projected Revenue at Proposed Rates</b>	<b>Net Distribution Revenue (E)</b>	<b>Fixed Charge Revenue (F)</b>	<b>Fixed % (G)</b>	<b>Variable % (H)</b>	<b>Total % (I)</b>	<b>Variable Charge Revenue</b>
Residential	17,344,032	11,273,383	65.00%	35.00%	59.04%	6,070,649
General Service < 50 kW	3,755,660	2,441,279	65.00%	35.00%	12.79%	1,314,381
General Service > 50	7,789,542	1,647,013	21.14%	78.86%	26.52%	6,142,529
Unmetered Scattered Load	133,163	101,871	76.50%	23.50%	0.45%	31,293
Sentinel Lighting	68,911	55,489	80.52%	19.48%	0.23%	13,422
Street Lighting	283,544	185,594	65.46%	34.54%	0.97%	97,949
<b>TOTAL</b>	<b>29,374,853</b>	<b>15,704,629</b>	<b>53.46%</b>	<b>46.54%</b>	<b>100.00%</b>	<b>13,670,224</b>

*(E) Sheet F4; "Total Base Revenue Requirement"**(F) Sheet F6; "Fixed Charge Revenue"**(G) = (F) / (E)**(H) = 1 - (G)**(I) Class Revenue from column (E) divided by Total from column (E)*



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## Exhibit 3

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Tab 3 of 4

Other Revenues

1 **Other Revenues**

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3 Other distribution revenue is any revenue that is distribution in nature but that is sourced from means  
4 other than distribution rates.

5

6 It includes items under the following categories as presented in OEB Appendix 2-H in Exhibit 3, Tab 3,  
7 Schedule 1, Attachment 1:

8

- 9 1. Specific Service Charges
- 10 2. Late Payment Charges
- 11 3. Other Distribution Revenue
- 12 4. Other Income or Deductions

13

14 Provided in OEB Appendix 2-H is a breakdown by USofA GL account of other revenue from the 2011  
15 Board Approved through to the 2015 test year. NPEI has restated the 2011 Board Approved other  
16 revenue amounts related to the water billing – non-utility operations for comparison purposes. The  
17 amount of \$1,596,475 for the 2015 test year is the revenue offset, meaning the Total Service Revenue  
18 Requirement is reduced by this amount in order to determine the net amount to be recovered through  
19 distribution rates.

20

21 Overall Variance Analysis of Other Revenue:

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23 The overall variance account analysis and variance by account analysis has been provided based on  
24 NPEI's materiality of \$148,427; the materiality calculation being noted earlier in Exhibit 1 of NPEI's COS  
25 rate application. NPEI has chosen to use \$75,000 as its basis for variance analysis of other revenues.

26

27 2011 Actual to 2011 Board Approved Other Revenue (Restated)

28 In the 2011 Board Approved column of table 3-43 NPEI previously recorded revenues related to water  
29 billing that it performed on behalf of the City of Niagara Falls customers through the affiliated company

1 Niagara Falls Hydro Services Inc., in the following accounts: 4235, 4225 and 4215. The settlement  
 2 agreement in 2011 Cost of Service application (EB-2010-0138) required NPEI to move certain water  
 3 expenses from various distribution expense accounts to account 4380. NPEI has recorded actual  
 4 revenues and expenses related to water billing and collecting activities from 2011 until the 2015 Test  
 5 year in the correct account 4375 and account 4380 respectively. As a result for the purposes of variance  
 6 analysis NPEI has restated the water revenues and expenses in the 2011 Board Approved column as per  
 7 below.

8 Table 3-43

	Account	2011 Board Approved	2011 Restated Board Approved	\$ Difference
4235	Specific Service Charges	956,879	924,416	(32,463)
4225	Late Payment Charges	518,557	381,550	(137,007)
4080-01	MicroFit Charges	-	-	-
4082	Retail Services Revenues	80,748	80,748	-
4084	Service Transaction Requests (STR) Revenues	2,970	2,970	-
4086	SSS Administration Revenue	126,094	126,094	-
4215	Other Utility Operating Income	348,351	32,416	(315,935)
4355	Gain on Disposition of Utility and Other Property	-	-	-
4360	Loss on Disposition of Utility and Other Property	-	-	-
4362	Loss from retirements of utility and Other Property	-	-	-
4375	Revenue from Non-Utility Operations	65,480	550,885	485,405
4380	Expenses from Non-Utility Operations	(260,000)	(260,000)	-
4390	Miscellaneous Non-Operating Income	40,000	40,000	-
4405	Interest and Dividend Income	127,863	127,863	-
	Total	2,006,942	2,006,942	-
	Remove Interest Carrying Charges	(45,195)	(45,195)	-
	<b>Total</b>	<b>1,961,747</b>	<b>1,961,747</b>	<b>-</b>

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A Detailed Breakdown of the reallocated line items is shown in Table 3-44 below:

Table 3-44 2011 Board Approved Other Revenue Restated

<b>4235 - Specific Service Charges</b>	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Specific Charge for Access to the Power Poles – per pole/year	313,638		313,638
Legal letter charge	13,926		13,926
Collection of account charge – no disconnection Hydro	223,767		223,767
Water Collection charge revenue	32,463	(32,463)	-
Returned Cheque charge (plus bank charges)	12,380		12,380
Disconnect/Reconnect at meter – during regular hours	45,370		45,370
Disconnect/Reconnect at meter – after regular hours	4,625		4,625
Disconnect/Reconnect at pole – during regular hours	0		-
Account set up charge / change of occupancy charge	189,030		189,030
Miscellaneous Service Revenues- Foreign Exchange			-
Miscellaneous Service Revenues- Project Revenue			-
Miscellaneous Service Revenues- Staledated cheques			-
Unclaimed standard offer deposit written off			-
Miscellaneous Service Revenues-Other	121,680		121,680
<b>Total</b>	<b>956,879</b>	<b>(32,463)</b>	<b>924,416</b>

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<b>4225 - Late Payment Charges</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Late payment charges Hydro	381,550		381,550
Water Late payment revenue	137,007	(137,007)	(0)
<b>Total</b>	<b>518,557</b>	<b>(137,007)</b>	<b>381,550</b>
<b>4080-01 - MicroFit Charges</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
MicroFit Charges	-		-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>4082 - Retail Service Revenue</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Retailer Service Agreement -- standard charge	-		
Retailer Service Agreement -- monthly fixed charge (per retailer)	4,800		4,800
Retailer Service Agreement -- monthly variable charge (per customer)	50,363		50,363
Distributor-Consolidated Billing -- monthly charge (per customer)	25,586		25,586
Retailer-Consolidated Billing -- monthly credit (per customer)	-		-
<b>Total</b>	<b>80,748</b>	<b>-</b>	<b>80,748</b>
<b>4084 - Service Transaction Requests</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Service Transaction Request -- request fee (per request)	1,215		1,215
Service Transaction Request -- processing fee (per processed request)	1,755		1,755
<b>Total</b>	<b>2,970</b>	<b>-</b>	<b>2,970</b>

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<b>4086 - SSS Admin Charges</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Residential	112,268		112,268
Unmetered			-
General Service > 50 kW	10,829		10,829
Sentinel	510		510
Streetlighting	18		18
General Service < 50 kW	2,469		2,469
<b>Total</b>	<b>126,094</b>	<b>-</b>	<b>126,094</b>
<b>4215 - Other Utility Operating Income</b>			
Water revenue for fixed asset mail machine	18,108	(18,108)	-
Water administration revenue	277,061	(277,061)	-
Water Occupancy change revenue	20,766	(20,766)	-
Sale of Scrap Materials	24,484		24,484
Transformer Rental	7,932		7,932
<b>Total</b>	<b>348,351</b>	<b>(315,935)</b>	<b>32,416</b>
<b>4355 - Gain from Disposition of Utility and Other Property</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Vehicles			
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>4360 - Loss from Disposition of Utility and Other Property</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Equipment			
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>4362 - Loss from Retirements of Utility and Other Property</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Station St DS			
Campden DS			
Greenlane DS			
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>

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<b>4375 - Revenue from Non-Utility Operations</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Water Late payment revenue		137,007	137,007
Water Collection charge revenue		32,463	32,463
Water Occupancy change revenue		20,766	20,766
Water revenue for fixed asset mail machine		18,108	18,108
Water administration revenue		277,061	277,061
CDM Incentives	65,480		65,480
Installation of poles for Bell Canada	-		-
OPA 2011 to 2014 Programs revenue			-
<b>Total</b>	<b>65,480</b>	<b>485,405</b>	<b>550,885</b>
<b>4380 - Expenses from Non-Utility Operations</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Water billing and collecting expenses	186,892		186,892
Water general and admin expenses	55,000		55,000
Water depreciation expense for fixed asset mail machine	18,108		18,108
OPA 2011 to 2014 Programs expenses			
<b>Total</b>	<b>260,000</b>	<b>-</b>	<b>260,000</b>
<b>4390-Miscellaneous Non-Operating Income</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Apprenticeship Tax Credit	40,000		40,000
<b>Total</b>	<b>40,000</b>	<b>-</b>	<b>40,000</b>
<b>4405 - Interest and Dividend Income</b>			
	<b>2011 Board</b>	<b>2011 Board</b>	<b>2011 Board</b>
	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	<b>CGAAP</b>	<b>Reallocation</b>	<b>CGAAP Restated</b>
Bank Interest	82,668		82,668
Third party collections interest income			
Interest and Dividend Carrying Charges	45,195		45,195
	127,863	-	127,863
<b>Total Other Operating Revenue</b>	<b>2,006,942</b>	<b>-</b>	<b>2,006,942</b>
<b>Remove Variance Account Interest</b>	<b>(45,195)</b>	<b>-</b>	<b>(45,195)</b>
<b>Adjusted Other Revenue</b>	<b>1,961,747</b>	<b>-</b>	<b>1,961,747</b>

1



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Table 3-45 Comparison 2011 Board Approved restate through to 2015TY

USOA #	USOA Description	2011 Board	2011 Actual	Difference 2011 Board Approved Restated vs. 2011 Actual	2011 Board Approve d Restated vs 2011 Actual%	2012 Actual	Difference 2011 Actual vs 2012 Actual	2011 Actual vs 2012 Actual %	2013 Actual <sup>2</sup>	Difference 2012 Actual vs 2013 Actual	2012 Actual vs 2013 Actual %	Bridge Year <sup>3</sup>	Difference 2013 Actual vs 2014 Bridge	2013 Actual vs 2014 Bridge %	Test Year	Difference 2014 Bridge vs 2015 Test	2014 Bridge vs 2015 Test %	Difference 2015 Test vs 2011 Board Approved	2014 Bridge vs 2015 Test %
		Approved Restated	2011			2012			2013			2014			2015				
Reporting Basis		CGAAP	CGAAP			CGAAP		CGAAP			CGAAP		MIFRS						
	<i>Other Revenue</i>																		
4235	Specific Service Charges	\$924,416	\$874,868	(\$49,547)	-5%	\$794,766	(\$80,102)	-9%	\$810,536	\$15,770	2%	\$805,434	(\$5,102)	-1%	\$803,285	(\$2,149)	0%	(\$121,131)	-13%
4225	Late Payment Charges	\$381,550	\$419,155	\$37,605	10%	\$372,203	(\$46,952)	-11%	\$353,574	(\$18,629)	-5%	\$357,661	\$4,087	1%	\$361,000	\$3,339	1%	(\$20,550)	-5%
4080-01	MicroFit Charges	\$0	\$4,486	\$4,486	100%	\$11,087	\$6,601	147%	\$16,187	\$5,100	46%	\$20,542	\$4,354	27%	\$21,060	\$518	3%	\$21,060	100%
4082	Retail Services Revenues	\$80,748	\$68,150	(\$12,598)	-16%	\$49,123	(\$19,027)	-28%	\$44,006	(\$5,117)	-10%	\$44,318	\$311	1%	\$44,424	\$107	0%	(\$36,324)	-45%
4084	Service Transaction Requests (STR) Revenues	\$2,970	\$1,898	(\$1,072)	-36%	\$1,323	(\$575)	-30%	\$1,071	(\$252)	-19%	\$1,024	(\$47)	-4%	\$1,047	\$23	2%	(\$1,923)	-65%
4086	SSS Administration Revenue	\$126,094	\$132,759	\$6,665	5%	\$138,403	\$5,644	4%	\$142,218	\$3,815	3%	\$141,294	(\$924)	-1%	\$140,656	(\$638)	0%	\$14,562	12%
4215	Other Utility Operating Income	\$32,416	\$43,664	\$11,248	35%	\$42,683	(\$981)	-2%	\$48,359	\$5,676	13%	\$43,100	(\$5,259)	-11%	\$44,000	\$900	2%	\$11,584	36%
4355	Gain on Disposition of Utility and Other Property	\$0	\$16,397	\$16,397	100%	\$359	(\$16,038)	-98%	\$11,121	\$10,762	2999%	\$0	(\$11,121)	-100%	\$0	\$0		\$0	0%
4360	Loss on Disposition of Utility and Other Property	\$0	\$0	\$0		\$0	\$0		(\$1,135)	(\$1,135)	100%	\$0	\$1,135	-100%	\$0	\$0		\$0	0%
4362	Loss from Retirements of Utility and Other Property	\$0	\$0	\$0		\$0	\$0		(\$66,865)	(\$66,865)	100%	\$0	\$66,865	-100%	\$0	\$0		\$0	0%
4375	Revenue from Non-Utility Operations	\$550,885	\$1,334,964	\$784,079	142%	\$1,825,918	\$490,954	37%	\$2,018,308	\$192,390	11%	\$1,632,123	(\$386,185)	-19%	\$0	(\$1,632,123)	-100%	(\$550,885)	-100%
4380	Expenses from Non-Utility Operations	(\$260,000)	(\$1,136,686)	(\$876,686)	337%	(\$1,482,009)	(\$345,323)	30%	(\$1,871,113)	(\$389,105)	26%	(\$1,606,051)	\$265,062	-14%	\$0	\$1,606,051	-100%	\$260,000	-100%
4390	Miscellaneous Non-Operating Income	\$40,000	\$58,882	\$18,882	47%	\$118,923	\$60,041	102%	\$118,062	(\$861)	-1%	\$111,027	(\$7,035)	-6%	\$81,003	(\$30,024)	-27%	\$41,003	103%
4405	Interest and Dividend Income	\$127,863	\$140,673	\$12,810	10%	\$174,715	\$34,042	24%	\$180,173	\$5,458	3%	\$307,684	\$127,511	71%	\$157,000	(\$150,684)	-49%	\$29,137	23%
	Gross Other Revenues	\$ 2,006,942	\$ 1,959,211	-\$ 47,731	-2%	\$ 2,047,495	\$ 88,284	5%	\$ 1,804,503	-\$ 242,992	-12%	\$ 1,858,155	\$ 53,652	3%	\$ 1,653,475	-\$ 204,680	-11%	(\$353,467)	-18%
4405	Remove Variance Account Interest	(\$45,195)	(\$55,431)	(\$10,236)	23%	(\$54,350)	\$1,081	-2%	(\$63,298)	(\$8,948)	16%	\$ 187,684	-\$ 124,386	197%	\$ 57,000	\$ 130,684	-70%	(\$11,805)	26%
	Adjusted Other Revenue	\$ 1,961,747	\$ 1,903,780	-\$ 57,967	-3%	\$ 1,993,145	\$ 89,365	5%	\$ 1,741,205	-\$ 251,940	-13%	\$ 1,670,471	-\$ 70,734	-4%	\$ 1,596,475	-\$ 73,996	-4%	(\$365,272)	-19%

1 2011 Actual to 2011 Board Approved (Restated):

2

3 NPEI's 2011 actual revenue excluding carrying charges was \$1,961,748 or \$57,967 2.95% lower than  
4 the 2011 Board approved other revenue. The net difference from revenues from non-utility operations  
5 arises from NPEI performing water billing, collecting, and accounting activities on behalf of the City of  
6 Niagara Falls for the residents of Niagara Falls through the affiliated company Niagara Falls Hydro  
7 Services Inc. The actual expenses recorded in account 4380 were \$88K higher than estimated in the  
8 2011 Board approved amount. There were no other material variances.

9

10 2012 Actual to 2011 Actual Other revenue:

11 2012 Other revenue excluding carrying charges was \$1,993,145 which was \$89,365 or 4.69% higher  
12 than 2011.

13

14 Specific service charges were lower by \$80,102 or 9.16%. In 2008 NPEI received deposits related to the  
15 Standard Offer program. In 2011 NPEI recorded into other income (\$94K) several unclaimed deposits  
16 related to a customer who went bankrupt in 2010. This revenue was a one-time event and therefore  
17 resulted in 2012's specific service charge revenue being lower than 2011.

18

19 The net revenues from non-utility operations were \$151,431 higher in 2012 than in 2011. In 2012, NPEI  
20 received revenues in the amount of \$187,551 from the OPA related to the incremental revenues from the  
21 2010 ERIP program.

22

23 2013 Actual to 2012 Actual Other Revenue:

24

25 In 2013, total other revenue excluding carrying charges was \$251,940 or 12.64% lower than in 2012. In  
26 2012 NPEI received revenues in the amount of \$187,551 from the OPA related to the incremental  
27 revenues from the 2010 ERIP program. The OPA commenced new CDM programs in 2011 that run from  
28 2011 to 2014. Any incremental revenues from these new programs will be received in future years if  
29 NPEI qualifies for such incremental revenues. Also, in 2011 and 2012 NPEI rebuilt Campden, Greenlane  
30 and Station Street distribution stations. These stations were all energized in late 2011 and 2012. NPEI  
31 retired the old stations as they were completely rebuilt. The net book values remaining as at year end of

1 2012 totaled \$66,865 for all three distribution stations. This amount was recorded to account 4362 and  
2 grouped with Other Revenue on the financial statements and the RRR trial balance.

3  
4 2014 Bridge Year to 2013 Actual Other Revenue:

5  
6 2014 Other Revenues excluding carrying charges are estimated to be \$70,734 or 4.06% lower than 2013  
7 actual other revenue. In 2013, NPEI recorded \$66,865 of a loss from the retirements of three distribution  
8 stations. NPEI does not anticipate any loss from retirements or dispositions of utility and other property  
9 in 2014. In the fall of 2013, the City of Niagara Falls notified NPEI of their intention to have the water  
10 billing, collecting and accounting activities return from Niagara Falls Hydro Services Inc. to the City of  
11 Niagara Falls. NPEI prepared its 2014 annual budget with the assumption that water billing would return  
12 to the City of Niagara Falls effective March 1, 2014. As such, the actual net earnings from water billing  
13 activities in 2013 were \$147,195. In 2014 net earnings from water billing activities were estimated at  
14 \$26,072 representing two months of non-utility net earnings compared to a full year in 2013 or a  
15 decrease of \$121,123.

16  
17 2015 Test Year to 2014 Bridge Year:

18  
19 2015 test year other revenue excluding carrying charges has decreased by \$73,996 or 4.43%. The 2015  
20 Ontario apprenticeship tax credit recorded in account 4390 Miscellaneous Non-Operating income  
21 decreased by \$28,903 due to there are four less apprentices that have reached the maximum of 48  
22 months than in 2013. The Federal investment tax credit also decreased from 2013 by \$1,121 for the  
23 same reason. In total account 4390 decreased \$30,024 or 27.04% in 2015 test year from the 2014  
24 bridge year amount. Effective in 2014 NPEI no longer will perform water billing activities which resulted  
25 in a decrease of \$26,720 of net earnings from non-utility operations from 2014 to the 2015 test year.  
26 Finally, bank interest income decreased by \$20,000 from the 2015 test year to 2014 bridge year.

27  
28 2015 Test Year to 2011 Board Approved Year:

29  
30 2015 test year other revenue excluding carrying charges has decreased \$365,272 or 18.62%. This is  
31 due to Specific Service Charges decreases by \$121,131, and revenues from non-utility operations



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1 decreasing by \$290,885. Water activities reverted back to the City of Niagara Falls in 2014 which is a  
2 decrease of \$225,405. Also, NPEI does not have any CDM incentive revenues in the 2015 test year  
3 which is a decrease of \$65,480 from the 2011 Board approved amount.

4

5 **Variance Analysis by Account Number:**

6

7 Appendix 2-H attached identifies by GL specific service charge type the amounts collected from 2011  
8 through to the 2015 test year.

9



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**4235 –Specific Service Charges**

4235 - Specific Service Charges																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference		2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011 Actual	vs 2012	2013	2012	Actual vs	2014	2013	Actual vs	2015	2014	2014
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	vs 2011	Actual %	CGAAP	Actual vs	2013	CGAAP	Actual vs	2013	MIFRS	Bridge vs	2015
			Restated vs.	vs 2011		Actual%			Actual	Actual		Bridge	Bridge %	2015 Test	2015 Test	Test %
Specific Charge for Access to the Power Poles – per pole/year	313,638	255,898	(57,740)	-18%	255,637	(260)	0%	249,326	(6,311)	-2%	253,058	3,732	1%	249,985	(3,073)	-1%
Legal letter charge	13,926	12,155	(1,771)	-13%	10,217	(1,938)	-16%	10,722	505	5%	11,100	378	4%	11,100	-	0%
Collection of account charge – no disconnection Hydro	223,767	148,216	(75,551)	-34%	227,582	79,366	54%	254,846	27,264	12%	265,000	10,154	4%	250,000	(15,000)	-6%
Water Collection charge revenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Returned Cheque charge (plus bank charges)	12,380	10,084	(2,296)	-19%	10,300	216	2%	8,599	(1,702)	-17%	8,700	102	1%	9,200	500	6%
Disconnect/Reconnect at meter – during regular hours	45,370	16,885	(28,485)	-63%	19,760	2,875	17%	25,055	5,295	27%	25,000	(55)	0%	25,000	-	0%
Disconnect/Reconnect at meter – after regular hours	4,625	4,995	370	8%	4,855	(140)	-3%	5,365	510	11%	5,400	35	1%	5,200	(200)	-4%
Disconnect/Reconnect at pole – during regular hours	-	7,165	7,165	100%	3,517	(3,648)	-51%	6,585	3,068	87%	7,300	715	11%	5,800	(1,500)	-21%
Account set up charge / change of occupancy charge	189,030	182,575	(6,455)	-3%	182,280	(295)	0%	184,320	2,040	1%	185,290	970	1%	184,000	(1,290)	-1%
Miscellaneous Service Revenues- Foreign Exchange	-	30,148	30,148	100%	1,137	(29,011)	-96%	(3,403)	(4,540)	-399%		3,403	-100%	-	-	
Miscellaneous Service Revenues- Project Revenue	-	54,130	54,130	100%	28,930	(25,201)	-47%	62,866	33,937	117%		(62,866)	-100%	-	-	
Miscellaneous Service Revenues- Staledated cheques	-	8,351	8,351	100%	13,463	5,112	61%	5,029	(8,434)	-63%		(5,029)	-100%	-	-	
Unclaimed standard offer deposit written off	-	94,048	94,048	100%		(94,048)	-100%		-			-		-	-	
Miscellaneous Service Revenues-Other	121,680	50,218	(71,462)	-59%	37,088	(13,130)	-26%	1,226	(35,861)	-97%	44,586	43,360	3536%	63,000	18,414	41%
<b>Total</b>	<b>924,416</b>	<b>874,868</b>	<b>(49,547)</b>	<b>-5%</b>	<b>794,766</b>	<b>(80,102)</b>	<b>-9%</b>	<b>810,536</b>	<b>15,770</b>	<b>2%</b>	<b>805,434</b>	<b>(5,102)</b>	<b>-1%</b>	<b>803,285</b>	<b>(2,149)</b>	<b>0%</b>

Specific Service Charges decreased by 5% between 2011 Board Approved Restated and 2011 Actual. This is due to Collection of account charge decreasing by \$75,551 because more customers were on time with payments for the year. Collection of account charge returned to regular levels in 2012 as shown by the \$79,366 increase and it remained stable in 2013. In 2011, several unclaimed standard offer deposits were written off which increased other revenues by \$94,048. The customer went bankrupt in 2010. NPEI estimates that revenues from Specific Service Charges will decrease 1% in 2014 Bridge Year and remain stable in 2015 Test Year. From 2011 through to 2015 specific service charge revenues have averaged \$817,778. This average includes a one-time event of a standard offer deposit taken into income back in 2011. Excluding this one-time event specific service charges have averaged \$798,968 over the last five years.



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**4225 – Late Payment Charges**

4225 - Late Payment Charges																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference		2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	2011 Actual	2013	2012	Actual	2014	2013	Actual vs	2015	2014	Bridge vs
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	Actual vs	vs 2012	CGAAP	Actual vs	Actual %	CGAAP	Actual vs	Bridge	MIFRS	2015 Test	2015 Test
			Restated vs.	vs 2011		Actual	Actual %		Actual			Bridge				
Late payment charges Hydro	381,550	419,155	37,605	10%	372,203	(46,952)	-11%	353,574	(18,629)	-5%	357,661	4,087	1%	361,000	3,339	1%
Water Late payment revenue	(0)		0			-			-			-			-	
<b>Total</b>	<b>381,550</b>	<b>419,155</b>	<b>37,605</b>	<b>10%</b>	<b>372,203</b>	<b>(46,952)</b>	<b>-11%</b>	<b>353,574</b>	<b>(18,629)</b>	<b>-5%</b>	<b>357,661</b>	<b>4,087</b>	<b>1%</b>	<b>361,000</b>	<b>3,339</b>	<b>1%</b>

Late payment charges increased 10% from 2011 Board Approved restated to 2011 Actual. Late payment charges declined in 2012 by 12% and 2013 by 5%. NPEI has estimated small increases in Late Payment Charges to \$357,661 and \$361,000 for the 2014 Bridge Year and the 2015 Test year respectively at 1% per year. From 2011 to 2015, late payment charges have averaged \$372,719. An Arrears management program was introduced in October 2010 for all customers meeting certain criteria. This program encourages customers to make partial payments via payment arrangements or payment agreements. As such, arrears balances decrease thereby decreasing late payment charge revenue. NPEI encourages payment arrangements for all of its customers who are in arrears whether or not they meet the criteria of the arrears management program.



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**4080-01 Micro-fit Charges**

4080-01 - MicroFit Charges																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference	2011 Actual	2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	vs 2012	2013	2012	Actual vs	2014	2013	Actual vs	2015	2014	2014
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	Actual vs	Actual %	CGAAP	Actual	2013	CGAAP	Actual vs	2014	MIFRS	Bridge vs	2015
			Restated vs.	vs 2011		Actual				Actual		Bridge	Bridge %		2015 Test	Test %
MicroFit Charges	-	4,486	4,486	100%	11,087	6,601	147%	16,187	5,100	46%	20,542	4,354	27%	21,060	518	3%
Total	-	4,486	4,486	100%	11,087	6,601	147%	16,187	5,100	46%	20,542	4,354	27%	21,060	518	3%

Micro-fit Charges commenced in 2011. The charge is a monthly service charge for the Feed-in-tariff program. NPEI had the following average number of customers connected: 71 in 2011, 189 in 2012 and 250 in 2013. NPEI projects to have 317 and 325 customers connected in 2014 and 2015 respectively. The monthly standard charge was \$5.25 per month per micro-fit in 2011 and currently is \$5.40 per month per micro-fit.

**4082, 4084 & 4086 – Retailer Services and Standard Supply Service Administration**

4082 - Retail Service Revenue																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference	2011 Actual	2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	vs 2012	2013	2012	Actual vs	2014	2013	Actual vs	2015	2014	2014
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	Actual vs	Actual %	CGAAP	Actual	2013	CGAAP	Actual vs	2014	MIFRS	Bridge vs	2015
			Restated vs.	vs 2011		Actual				Actual		Bridge	Bridge %		2015 Test	Test %
Retailer Service Agreement -- standard charge		400	400	100%	300	(100)	-25%	-	(300)	-100%	-	-	-	-	-	-
Retailer Service Agreement -- monthly fixed charge (per retailer)	4,800	3,749	(1,051)	-22%	3,360	(389)	-10%	4,260	900	27%	3,915	(345)	-8%	4,400	485	12%
Retailer Service Agreement -- monthly variable charge (per customer)	50,363	40,001	(10,362)	-21%	28,415	(11,586)	-29%	24,879	(3,536)	-12%	25,252	373	1%	25,015	(237)	-1%
Distributor-Consolidated Billing -- monthly charge (per customer)	25,586	24,000	(1,585)	-6%	17,049	(6,952)	-29%	14,867	(2,181)	-13%	15,151	284	2%	15,009	(142)	-1%
Retailer-Consolidated Billing -- monthly credit (per customer)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	80,748	68,150	(12,598)	-16%	49,123	(19,027)	-28%	44,006	(5,117)	-10%	44,318	311	1%	44,424	107	0%



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1 Retail Services Revenue Account 4082 decreased 16% between 2011 Board Approved restated and 2011 Actual. Retail Services Revenue  
 2 continued to decline in 2012 by 28% and 2013 by 10%. NPEI forecasts that account 4082 will increase 1% in the 2014 Bridge year and remain  
 3 stable for the 2015 Test Year. The general trend of declining Retail Services Revenue is due to the decrease in the number of customers with  
 4 retailers. Overall from the 2015 test year, Retail Services revenue has decreased by \$36,324 or 44.98%. The number of retail customers billed  
 5 monthly on average in 2011 was 17,268 and on average there were 2,692 retailer customers billed in 2013.  
 6

4084 - Service Transaction Requests																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference		2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011 Actual	vs 2012	2013	2012	Actual vs	2014	2013	Actual vs	2015	2014	2014
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	Restated vs.	Actual %	CGAAP	Actual vs	Actual %	CGAAP	Actual vs	Actual %	MIFRS	Bridge vs	Bridge vs
			2011 Actual	vs 2011		2011 Actual	Actual %		Actual			Actual			2015 Test	2015 Test %
Service Transaction Request -- request fee (per request)	1,215	668	(547)	-45%	469	(199)	-30%	391	(78)	-17%	376	(15)	-4%	383	7	2%
Service Transaction Request -- processing fee (per processed request)	1,755	1,230	(525)	-30%	854	(376)	-31%	680	(174)	-20%	648	(32)	-5%	664	16	2%
Total	2,970	1,898	(1,072)	-36%	1,323	(575)	-30%	1,071	(252)	-19%	1,024	(47)	-4%	1,047	23	2%

7  
 8  
 9 Service Transaction Requests Revenue Account 4084 decreased 36% between 2011 Board Approved restated and 2011 Actual. Service  
 10 Transactions Requests Revenue continued to decline in 2012 by 30% and 2013 by 19%. NPEI forecasts that account 4082 will decrease a further  
 11 4% in the 2014 Bridge year. It is forecasted that there will be increase of 2% for 2015 Test Year.  
 12  
 13



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4086 - SSS Admin Charges																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference		2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	2011 Actual	2013	2012	Actual vs	2014	2013	Actual vs	2015	2014	2014
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	Actual vs	vs 2012	CGAAP	Actual vs	2012	CGAAP	Actual vs	2013	MIFRS	Bridge vs	2015
			Restated vs.	vs 2011		Actual	Actual %		Actual	Actual		Bridge	Bridge %		2015 Test	Test %
Residential	112,268	118,649	6,381	6%	124,065	5,416	5%	127,590	3,525	3%	126,784	(806)	-1%	126,150	(634)	-1%
Unmetered	-	-	-		352	352	100%	419	67	19%	439	20	5%	11,677	11,238	2561%
General Service > 50 kW	10,829	2,359	(8,470)	-78%	2,333	(26)	-1%	2,362	29	1%	2,334	(28)	-1%	429	(1,905)	-82%
Sentinel	510	397	(113)	-22%	81	(317)	-80%	15	(66)	-82%	13	(1)	-10%	2,343	2,330	17596%
Streetlighting	18	-	(18)	-100%	41	41	100%	46	5	12%	42	(4)	-8%	14	(28)	-67%
General Service < 50 kW	2,469	11,353	8,884	360%	11,562	208	2%	11,787	225	2%	11,682	(105)	-1%	43	(11,639)	-100%
Total	126,094	132,759	6,665	5%	138,433	5,674	4%	142,218	3,785	3%	141,294	(924)	-1%	140,656	(638)	0%

Account 4086 was created by the OEB to record Standard Supply Services which were previously included in account 4080. Account 4080 was restated for 2011 to retroactively reflect account 4086's portion of revenue. There have been no significant variances in this account from 2011 through to 2015 test year. SSS Admin Charge revenue in the 2015 test year is \$14,562 or 11.54% higher than the 2011 Board approved amount.

**4215 – Other Utility Operating Income**

4215 - Other Utility Operating Income																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference		2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	2011 Actual	2013	2012	Actual vs	2014	2013	Actual vs	2015	2014	2014
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	Actual vs	vs 2012	CGAAP	Actual vs	2012	CGAAP	Actual vs	2013	MIFRS	Bridge vs	2015
			Restated vs.	vs 2011		Actual	Actual %		Actual	Actual		Bridge	Bridge %		2015 Test	Test %
Sale of Scrap Materials	24,484	37,577	13,093	53%	33,374	(4,204)	-11%	39,049	5,676	17%	35,000	(4,049)	-10%	35,000	-	0%
Transformer Rental	7,932	6,087	(1,845)	-23%	9,309	3,223	53%	9,309	-	0%	8,100	(1,209)	-13%	9,000	900	11%
Total	32,416	43,664	11,248	35%	42,683	(981)	-2%	48,359	5,676	0	43,100	(5,259)	-11%	44,000	900	2%



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1 Account 4215 decreased 35% between the Board Approved restated 2011 and 2011 Actual. NPEI records the sale of scrap materials and  
 2 transformer rentals in this account. NPEI projects Account 4215 to be \$43,100 in 2014 and \$44,000 in 2015. On average from 2011 to 2015 NPEI  
 3 has recorded \$44,361 of other utility operating income.

4  
 5 **4355 Gain on Disposition of Utility and Other Property**

4355 - Gain from Disposition of Utility and Other Property																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference		2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	2011 Actual	2013	2012	Actual	2014	2013	Actual vs	2015	2014	2014
	CGAAP Restated	CGAAP	Approved vs.	Restated	CGAAP	Actual vs	vs 2012	CGAAP	Actual vs	vs 2013	CGAAP	Actual vs	2014	MIFRS	Bridge vs	Bridge vs
			2011 Actual	vs 2011		Actual	Actual %		2013	Actual %		2014	Bridge %	2015	2015 Test	2015 Test %
Vehicles		16,397	16,397	100%	359	(16,038)	-98%	11,121	10,762	2999%		(11,121)	-100%		-	
Total		16,397	16,397	100%	359	(16,038)	-98%	11,121	10,762	2999%	-	(11,121)	-100%	-	-	

6  
 7  
 8 Assets are rarely disposed of until they are fully depreciated and/or past their useful life. If there is a net book value remaining, it will be because the  
 9 asset is no longer usable. Account 4355 increased by \$16,397 between 2011 Board Approved restated and 2011 actual. NPEI received an  
 10 insurance settlement for one of its bucket trucks that was involved in an accident. The \$16,397 additional proceeds received from the insurance  
 11 company offset NPEI's own internal labour from its garage department that performed work required to put the replacement vehicle into service.  
 12 These labour costs were recorded in Distribution operations expenses. NPEI does not project any gains for future years.



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**4360 Loss on Disposition of Utility and Other Property**

4360 - Loss from Disposition of Utility and Other Property																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference		2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	2011 Actual	2013	2012	Actual vs	2014	2013	Actual vs	2015	2014	2014
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	Actual vs	vs 2012	CGAAP	Actual	2012	CGAAP	Actual vs	%	MIFRS	Bridge vs	2015
			Restated vs.	vs 2011		Actual	Actual %			Actual		Bridge			2015 Test	Test %
			2011 Actual	Actual%								Bridge				
Equipment		-	-			-		1,135	1,135	100%		(1,135)	-100%		-	
Total	-	-	-		-	-		1,135	1,135		-	(1,135)	-100%	-	-	

Assets are rarely disposed of until they are fully depreciated and/or past their useful life. If there is a net book value remaining, it will be because the asset is no longer usable. Account 4360 reported a loss of \$1,135 in 2013. NPEI does not project any losses for future years.

**4362 Loss from Retirements of Utility and Other Property**

4362 - Loss from Retirements of Utility and Other Property																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference		2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	2011 Actual	2013	2012	Actual vs	2014	2013	Actual vs	2015	2014	2014
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	Actual vs	vs 2012	CGAAP	Actual	2012	CGAAP	Actual vs	%	MIFRS	Bridge vs	2015
			Restated vs.	vs 2011		Actual	Actual %			Actual		Bridge			2015 Test	Test %
			2011 Actual	Actual%								Bridge				
Station St DS		-	-			-		44,303	44,303	100%		(44,303)	-100%		-	
Campden DS		-	-			-		12,887	12,887	100%		(12,887)	-100%		-	
Greenlane DS		-	-			-		9,675	9,675	100%		(9,675)	-100%		-	
Total	-	-	-		-	-		66,865	66,865	100%	-	(66,865)	-100%	-	-	

Account 4362 reported a loss of \$66,865 in 2013. This is related to the retirement of three distribution stations due to the distribution stations being rebuilt. NPEI does not project any losses from retirements of utility or other property in the 2014 bridge year or 2015 test year.



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**4375 Revenue from Non-Utility Operations and 4380 Expenses from Non-Utility Operations**

4375 - Revenue from Non-Utility Operations																
	2011 Board	2011 Actual	Difference	2011	2012 Actual	Difference	2011	2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Board	2012	2011	Actual vs	2013	2012	2012 Actual	2014	2013	Actual vs	2015	2014	2014
	CGAAP	CGAAP	Approved	Approved	CGAAP	Actual vs	2012	CGAAP	Actual vs	Actual %	CGAAP	Actual vs	2014	MIFRS	Bridge	Bridge
	Restated	Restated	vs. 2011	vs. 2011	Restated	Actual	Actual %	Restated	Actual	Actual %	Restated	Bridge	Bridge %	Test %	vs 2015	Test %
Water Late payment revenue	137,007	109,990	(27,017)	-20%	124,111	14,120	13%	126,184	2,074	2%	30,901	(95,284)	-76%		(30,901)	-100%
Water Collection charge revenue	32,463	33,470	1,007	3%	41,351	7,881	24%	42,032	681	2%	10,326	(31,706)	-75%		(10,326)	-100%
Water Occupancy change revenue	20,766	23,895	3,129	15%	24,264	369	2%	24,867	603	2%	5,751	(19,116)	-77%		(5,751)	-100%
Water revenue for fixed asset mail machine	18,108	18,108	-	0%	18,108	-	0%	18,108	-	0%	4,527	(13,581)	-75%		(4,527)	-100%
Water administration revenue	277,061	303,336	26,275	9%	300,913	(2,423)	-1%	303,122	2,209	1%	81,254	(221,868)	-73%		(81,254)	-100%
CDM Incentives	65,480	44,606	(20,874)	-32%	187,551	142,945	320%	(11,826)	(199,377)	-106%	-	11,826	-100%	-	-	-
Installation of poles for Bell Canada	-	12,963	12,963	100%	-	(12,963)	-100%	-	-	-	-	-	-	-	-	-
OPA 2011 to 2014 Programs revenue	-	788,596	788,596	100%	1,129,621	341,025	43%	1,515,821	386,201	34%	1,499,364	(16,457)	-1%	-	(1,499,364)	-100%
<b>Total</b>	<b>550,885</b>	<b>1,334,964</b>	<b>784,079</b>	<b>142%</b>	<b>1,825,918</b>	<b>490,954</b>	<b>37%</b>	<b>2,018,308</b>	<b>192,390</b>	<b>11%</b>	<b>1,632,123</b>	<b>(386,185)</b>	<b>-19%</b>	<b>-</b>	<b>(1,632,123)</b>	<b>-100%</b>

4380 - Expenses from Non-Utility Operations																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference	2011	2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	Actual vs	2013	2012	2012 Actual	2014	2013	Actual vs	2015	2014	2014
	CGAAP	CGAAP	Approved	Approved	CGAAP	Actual vs	2012	CGAAP	Actual vs	Actual %	CGAAP	Actual vs	2014	MIFRS	Bridge	Bridge
	Restated	Restated	vs. 2011	vs. 2011	Restated	Actual	Actual %	Restated	Actual	Actual %	Restated	Bridge	Bridge %	Test %	vs 2015	Test %
Water billing and collecting expenses	186,892	272,788	85,896	46%	279,400	6,612	2%	282,146	2,746	1%	78,885	(203,261)	-72%		(78,885)	-100%
Water general and admin expenses	55,000	57,194	2,194	4%	54,880	(2,314)	-4%	55,038	158	0%	21,766	(33,272)	-60%		(21,766)	-100%
Water depreciation expense for fixed asset mail machine	18,108	18,108	-	0%	18,108	-	0%	18,108	-	0%	6,036	(12,072)	-67%		(6,036)	-100%
OPA 2011 to 2014 Programs expenses	-	788,596	788,596	100%	1,129,621	341,025	43%	1,515,821	386,201	34%	1,303,157	(212,664)	-14%	-	(1,303,157)	-100%
<b>Total</b>	<b>260,000</b>	<b>1,136,686</b>	<b>876,686</b>	<b>337%</b>	<b>1,482,009</b>	<b>345,323</b>	<b>30%</b>	<b>1,871,113</b>	<b>389,105</b>	<b>26%</b>	<b>1,409,844</b>	<b>(461,269)</b>	<b>-25%</b>	<b>-</b>	<b>(1,409,844)</b>	<b>-100%</b>

NPEI had three sources of non-utility income (and expenses in account 4380) from 2011 through to 2014 as described below. NPEI does not have any sources of non-utility income in the 2015 test year:

1 **Water and Sewage billing** – NPEI provided water and sewage meter reading, billing, collections and customer service on behalf of the City of  
2 Niagara Falls for the residents of the City of Niagara Falls from the year 2001 to 2014 through an affiliated company Niagara Falls Hydro Services  
3 Inc. NPEI received revenues from late payment charges, collection charges, occupancy change charges, recovery of fixed asset revenues and  
4 water administration revenues related to the above mentioned services provided. All direct labour incurred for water related activities was also  
5 recovered from the City of Niagara Falls through the affiliated company Niagara Falls Hydro Services Inc. The water administration revenue was  
6 calculated at \$4.20 per water only bill. This charge was to recover billing forms, envelopes and postage related to the water only bill as well as  
7 allocated office supplies, cashiering functions, accounting functions, brinks and other operating costs. These expenses were recorded in Billing and  
8 Collecting expenses and General Administration expenses on the audited financial statements but are reallocated to account 4380 on the 2.1.13  
9 Part 1 and Part 2 RRR year-end filings. See Exhibit 1 audit financial statements and 2.1.13 RRR filings for the years 2011 to 2013 for details. NPEI  
10 had net earnings from water and sewage billing of \$140,709 in 2011; \$156,358 in 2012; 159,021 and \$26,072 in 2014. The net earnings can be  
11 attributed to fixed costs such as building costs, property taxes, insurance etc. These costs were not allocated to affiliate transactions. Water  
12 activities returned to the City of Niagara Falls in 2014 and therefore there is no revenue from this source for the 2015 test year.

### 13 14 **Installation of poles for Bell Canada**

15  
16 In 2011 NPEI installed Bell Canada owned poles on behalf of Bell Canada. The labour and equipment costs were recovered in the amount of  
17 \$12,963 in 2011. This was a one-time event and no revenues related to this are included in the 2015 test year.

### 18 19 **OPA Financial incentives**

20  
21 Revenues and expenses related to Ontario Power Authority sanctioned CDM programs are recorded as a net of zero on the income statement until  
22 such time as the programs are trued up. In 2011, NPEI received \$44,606 related to 2010 CDM programs. In 2011, NPEI received \$187,551 related



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to the 2010 ERIP programs. This amount was revised as a repayment of \$11,826 in 2012. NPEI recorded expenses in account 4380 in each year from 2011 to 2014 related to the OPA's 2011 new programs. NPEI offsets these expenses as a credit to account 4375 and the difference between monies received from the OPA and monies spent at the end of each fiscal year is recorded a Deferred Revenue on the balance sheet.

Due to the uncertainty of the new CDM structure and framework for the year 2015 and beyond, NPEI has not recorded any amounts in account 4375 or 4380. Any incentive revenues related to the 2011 to 2014 CDM programs will be based on various criteria. Again, due to the uncertainty of targets being met and monies spent to date, NPEI has not recorded any incentive revenue in 2015.

Account 4375 increased by 167% between 2011 Board Approved Restated and 2011 Actual. This is mostly due to OPA revenues were not included in the 2011 Board Approved amount. The OPA Programs Revenues are offset by expenses in Account 4380 to have no overall effect on the income statement.

**4390 Miscellaneous Non-Operating Income**

4390-Miscellaneous Non-Operating Income	2011 Board Approved	2011 Actual	Difference 2011 Board Approved Restated vs. 2011 Actual	2011 Board Approved Restated vs 2011 Actual%	2012 Actual	Difference 2011 Actual vs 2012 Actual	2011 Actual vs 2012 Actual %	2013 Actual <sup>2</sup>	Difference 2012 Actual vs 2013 Actual	2012 Actual vs 2013 Actual %	Bridge Year <sup>3</sup>	Difference 2013 Actual vs 2014 Bridge	2013 Actual vs 2014 Bridge %	Test Year	Difference 2014 Bridge vs 2015 Test	2014 Bridge vs 2015 Test %
	Approved	2011			2012			2013			2014			2015		
	CGAAP Restated	CGAAP			CGAAP			CGAAP			CGAAP			MIFRS		
Apprenticeship Tax Credit	40,000	58,882	18,882	47%	118,923	60,041	102%	118,062	(861)	-1%	111,027	(7,035)	-6%	81,003	(30,024)	-27%
Total	40,000	58,882	18,882	47%	118,923	60,041	102%	118,062	(861)	-1%	111,027	(7,035)	-6%	81,003	(30,024)	-27%

Account 4390 increased 47% between 2011 Board Approved restated and 2011 Actual. Miscellaneous Non-Operating Income decreased marginally by 1% in 2012 and by 6% in 2013. This is due to the change in the tax provision for Apprenticeship tax credits. NPEI has hired



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1 apprenticeships as needed to fill positions created by retirements and staff turnover. NPEI receives an Ontario apprenticeship tax credit calculated  
 2 as 35% up to a maximum of \$10,000 for each apprentice's annual wages for a period of 48 months. NPEI also receives a Federal Investment tax  
 3 credit calculated as the lessor of 10% for each apprentice's annual wages up to a maximum of \$2,000 for a period of 24 months. NPEI will have 12  
 4 apprentices that qualified in 2014 and eight that will qualify in 2015 provided that these apprentices are still employed by NPEI during those years.

6 **4405 Interest and Dividend Income**

4405 - Interest and Dividend Income																
	2011 Board	2011 Actual	Difference	2011 Board	2012 Actual	Difference		2013 Actual <sup>2</sup>	Difference	2012	Bridge Year <sup>3</sup>	Difference	2013	Test Year	Difference	2014
	Approved	2011	2011 Board	Approved	2012	2011	2011 Actual	2013	2012	Actual vs	2014	2013	Actual vs	2015	2014	2015
	CGAAP Restated	CGAAP	Approved	Restated	CGAAP	Actual vs	vs 2012	CGAAP	Actual vs	Actual	CGAAP	Actual vs	Actual %	MIFRS	Bridge vs	Bridge vs
			Restated vs.	vs 2011		Actual	Actual %		2013	%		Bridge		2015 Test	2015 Test	Test %
Bank Interest	82,668	83,760	1,092	1%	118,186	34,426	41%	114,946	(3,240)	-3%	118,000	3,054	3%	98,000	(20,000)	-17%
Third party collections interest income		1,482	1,482	100%	2,180	698	47%	1,929	(250)	-11%	2,000	71	4%	2,000	-	0%
Interest and Dividend Carrying Charges	45,195	55,431	10,236	23%	54,350	(1,081)	-2%	63,298	8,948	16%	187,684	124,386	197%	57,000	(130,684)	-70%
	127,863	140,673	12,810	10%	174,715	34,042	24%	180,173	5,458	3%	307,684	127,511	71%	157,000	(150,684)	-49%

10 NPEI records both bank interest income and carrying charges related to regulatory assets in account 4405. For the purposes of calculating NPEI's  
 11 total revenue offset, carrying charges are excluded from the calculation of Base revenue requirement. Account 4405 increased 10% between 2011  
 12 Board Approved restated and 2011 Actual. Interest income increased 24% in 2012 and 3% in 2013 due to NPEI receiving bank financing in the  
 13 amount of \$10M dollars in both 2012 and 2013 at different times in the year. NPEI is going to obtain an additional \$10M loan by the end of the 2014  
 14 year. On a quarterly basis, NPEI trued-up the water revenues and expenses with Niagara Falls Hydro Services Inc. quarterly settlement payments  
 15 made directly to City of Niagara Falls for water related activities. The monthly net water revenues ranged from \$2.5M to \$4.0M depending on the  
 16 month during the year.

1 As a result, NPEI benefited from these cash balances by earning interest revenue. The final balance  
2 owing was paid in 2014 and hence NPEI's cash balances eligible for earning interest decreased.  
3 NPEI is forecasting interest income and carrying charges to be \$187,684 for 2014 Bridge year and  
4 \$157,000 for 2015 Test year. Interest income for 2014 Bridge year and 2015 Test year are anticipated to  
5 decrease due to lower cash balances on hand. The 2014 Bridge year amount of \$187,684 includes  
6 \$133,684 of revenue generated from carrying charges on asset balances for the disposition of smart  
7 meters as per NPEI's decision and rate order February 27, 2014 EB-2013-0359. This amount is deducted  
8 to arrive at the net amount of revenue offset and therefore has no impact.

9

10 **4305-Regulatory Debit – Depreciation Policy Change**

11

12 An amount of \$3,054,566 was recorded to account 4305 in 2013 as a result of changing asset useful  
13 lives as directed in the OEB letter dated July 17, 2012. For the 2014 Bridge year, \$3,333,862 has been  
14 recorded. The offsetting entries have been posted to the Regulatory variance account #1576 and will be  
15 disposed of as a rate rider as part of the 2015 COS application, as detailed under Exhibit 9.

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17 **Reconciliation of Other Revenue to Audit Financial Statements 2011 to 2013**

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19 Table 3-46 below illustrates the reconciliation of other revenue to the Audit Financial statement for the  
20 years 2011 through to 2013.

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Table 3-46 Reconciliation of Other Revenue to Audit Financial Statements 2011 to 2013

Revenue Category	Audit Financial Statement Line	2011	2012	2013
Micro-Fit Charges	Distribution Volumetric	4,486	11,087	16,187
SSS Admin Charge	Distribution Volumetric	132,759		
SSS Admin Charge	SSS Administration Revenue		138,403	142,218
Retailer Revenue	Retailer Revenue	70,048	50,447	45,077
<b>Total Other Revenue before Other Income</b>		<b>207,293</b>	<b>199,937</b>	<b>203,482</b>
Specific Service Charges	Other Revenue	874,868	794,766	810,536
Late Payment Charges	Other Revenue	419,155	372,203	353,574
Other Utility Operating Income	Other Revenue	43,664	42,683	48,359
Gain on Disposition of Utility and Other Property	Other Revenue	16,397	359	11,121
Loss on Disposition of Utility and Other Property	Other Revenue		0	(1,135)
Loss on Retirement of Utility and Other Property	Other Revenue		0	(66,865)
Revenue from Non-Utility Operations	Other Revenue	1,334,964	1,825,918	2,018,308
Expenses from Non-Utility Operations	Other Revenue	(788,596)	(1,129,621)	(1,515,822)
Miscellaneous Non-Operating Income	Other Revenue	58,882	118,923	118,062
Interest and Dividend Income	Other Revenue	140,673	174,715	180,173
		<b>2,100,008</b>	<b>2,199,946</b>	<b>1,956,313</b>
<b>Total Other Revenue Before Reallocation</b>		<b>2,307,301</b>	<b>2,399,883</b>	<b>2,159,795</b>
Expenses reallocated from Billing and Collecting General & Admin and Depreciation expense lines		(348,090)	(352,388)	(355,292)
<b>Total Other Revenue including carrying charges</b>		<b>1,959,211</b>	<b>2,047,495</b>	<b>1,804,503</b>
<b>Less Carrying Charges</b>		<b>(55,431)</b>	<b>(54,350)</b>	<b>(63,298)</b>
<b>Total Other Revenue for offset to Service Revenue</b>		<b>1,903,780</b>	<b>1,993,145</b>	<b>1,741,205</b>

**Current Specific Service Charges**

As per NPEI's most recent rate order for its IRM rate application EB-2013-0154 dated February 20, 2014, the specific service charges approved by the Board are as follows:

**Customer Administration**

Returned cheque (plus bank charges)	\$	20.00
Legal letter charge	\$	15.00
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	30.00
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$	30.00

**Non-Payment of Account**

Late Payment – per month	%	1.50
Late Payment – per annum	%	19.56

Collection of account charge – no disconnection	\$	30.00
Collection of account charge – no disconnection – after regular hours	\$	165.00
Disconnect/Reconnect at meter – during regular hours	\$	65.00
Disconnect/Reconnect at meter – after regular hours	\$	185.00
Disconnect/Reconnect at pole – during regular hours	\$	185.00
Disconnect/Reconnect at pole – after regular hours	\$	415.00

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Install/Remove load control device – during regular hours	\$	65.00
Install/Remove load control device – after regular hours	\$	185.00
Service call – customer owned equipment	\$	30.00
Service call – after regular hours	\$	165.00
Temporary service install & remove – overhead – no transformer	\$	500.00
Temporary Service – Install & remove – underground – no transformer	\$	300.00
Temporary Service Install & Remove – Overhead – With Transformer	\$	1,000.00
Specific Charge for Access to the Power Poles - \$/pole/year	\$	22.35

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5

Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity.

One-time charge, per retailer, to establish the service agreement between the distributor and the retailer	\$	100.00
Monthly Fixed Charge, per retailer	\$	20.00
Monthly Variable Charge, per customer, per retailer	\$/cust.	0.50
Distributor-consolidated billing monthly charge, per customer, per retailer	\$/cust.	0.30
Retailer-consolidated billing monthly credit, per customer, per retailer	\$/cust.	(0.30)
Service Transaction Requests (STR)		
Request fee, per request, applied to the requesting party	\$	0.25
Processing fee, per request, applied to the requesting party	\$	0.50
Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party		
Up to twice a year		no charge
More than twice a year, per request (plus incremental delivery costs)		\$2.00

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Micro-fit

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MONTHLY RATES AND CHARGES - Delivery

14

Component                      \$5.40 per month

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16

17

**Proposed Specific Service Charges**

18

NPEI requests that the Specific Service Charges, as noted above, be approved by the Board for the rate year effective May 1, 2015. NPEI is not requesting any changes to its current specific service charges and NPEI is not requesting any new specific service charges in this 2015 COS rate application.

21



File Number:EB-2014-0096

Exhibit: 3

Tab: 3

Schedule: 1

Date Filed:September 23, 2014

Attachment 1 of 1

OEB Appendix 2-H

## Appendix 2-H Other Operating Revenue

USoA #	USoA Description	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
		2011	2011	2012	2013	2014	2015
	<i>Reporting Basis</i>	<i>CGAAP</i>	<i>CGAAP</i>	<i>CGAAP</i>	<i>CGAAP</i>	<i>CGAAP</i>	<i>MIFRS</i>
4305	Regulatory Debit	\$ -	\$ -	\$ -	(\$3,054,566)	(\$3,333,862)	\$ -
	<i>Other Revenue</i>						
4235	Specific Service Charges	\$ 924,416	\$ 874,868	\$ 794,766	\$ 810,536	\$ 805,434	\$ 803,285
4225	Late Payment Charges	\$ 381,550	\$ 419,155	\$ 372,203	\$ 353,574	\$ 357,661	\$ 361,000
4080-01	MicroFit Charges	\$ -	\$ 4,486	\$ 11,087	\$ 16,187	\$ 20,542	\$ 21,060
4082	Retail Services Revenues	\$ 80,749	\$ 68,150	\$ 49,123	\$ 44,006	\$ 44,318	\$ 44,424
4084	Service Transaction Requests (STR) Revenues	\$ 2,970	\$ 1,898	\$ 1,323	\$ 1,071	\$ 1,024	\$ 1,047
4086	SSS Administration Revenue	\$ 126,094	\$ 132,759	\$ 138,433	\$ 142,218	\$ 141,294	\$ 140,656
4215	Other Utility Operating Income	\$ 32,416	\$ 43,664	\$ 42,683	\$ 48,359	\$ 43,100	\$ 44,000
4355	Gain on Disposition of Utility and Other Property	\$ -	\$ 16,397	\$ 359	\$ 11,121	\$ -	\$ -
4360	Loss on Disposition of Utility and Other Property	\$ -	\$ -	\$ -	(\$1,135)	\$ -	\$ -
4362	Loss on Retirement of Utility & Other Property	\$ -	\$ -	\$ -	(\$66,865)	\$ -	\$ -
4375	Revenue from Non-Utility Operations	\$ 550,885	\$ 1,334,964	\$ 1,825,918	\$ 2,018,308	\$ 1,632,123	\$ -
4380	Expenses from Non-Utility Operations	(\$260,000)	(\$1,136,686)	(\$1,482,009)	(1,871,114)	-\$ 1,606,051	0
4390	Miscellaneous Non-Operating Income	\$ 40,000	\$ 58,882	\$ 118,923	\$ 118,062	\$ 111,027	\$ 81,003
4405	Interest and Dividend Income including Carrying Charges	\$ 127,863	\$ 140,673	\$ 174,715	\$ 180,173	\$ 307,684	\$ 157,000
		\$ 2,006,943	\$ 1,959,211	\$ 2,047,525	\$ 1,804,502	\$ 1,858,155	\$ 1,653,475
	Less Carrying Charges in 4405	(45,195)	(55,431)	(54,350)	(63,298)	(187,684)	(57,000)
	Total Miscellaneous Revenue	\$ 1,961,748	\$ 1,903,780	\$ 1,993,175	\$ 1,741,204	\$ 1,670,471	\$ 1,596,475
	<b>Summary</b>						
	Specific Service Charges	\$ 924,416	\$ 874,868	\$ 794,766	\$ 810,536	\$ 805,434	\$ 803,285
	Late Payment Charges	\$ 381,550	\$ 419,155	\$ 372,203	\$ 353,574	\$ 357,661	\$ 361,000
	Other Operating Revenues	\$ 242,229	\$ 250,957	\$ 242,649	\$ 251,841	\$ 250,277	\$ 251,187
	Other Income or Deductions Excluding Carrying Charges	\$ 413,553	\$ 358,799	\$ 583,556	\$ 325,252	\$ 257,099	\$ 181,003
	<b>Total</b>	<b>\$ 1,961,748</b>	<b>\$ 1,903,780</b>	<b>\$ 1,993,175</b>	<b>\$ 1,741,204</b>	<b>\$ 1,670,471</b>	<b>\$ 1,596,475</b>

**Description**

Specific Service Charges:

**Account(s)**

4235

**Account(s)**

4235

Late Payment Charges:

4225

4225

Other Distribution Revenues:

4080, 4082, 4084, 4090, 4205, 4210, 4215, 4220, 4240, 4245

Other Income and Expenses:

4305, 4310, 4315, 4320, 4325, 4330, 4335, 4340, 4345, 4350, 4355, 4360, 4365, 4370, 4375, 4380, 4385, 4390, 4395, 4398, 4405, 4415

**Note: Add all applicable accounts listed above to the table and include all relevant information.**

**Account Breakdown Details**

For each "Other Operating Revenue" and "Other Income or Deductions" Account, a detailed breakdown of the account components is required. See the example below for Account 4405, Interest and Dividend Income.

4235 Specific Service Charges	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
	2011	2011	2012	2013	2014	2015
Reporting Basis	CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Specific Charge for Access to the Power Poles – per pole/year	\$ 313,638	\$ 255,898	\$ 255,637	\$ 249,326	\$ 253,058	\$ 249,985
Legal letter charge	\$ 13,926	\$ 12,155	\$ 10,217	\$ 10,722	\$ 11,100	\$ 11,100
Collection of account charge – no disconnection	\$ 223,767	\$ 148,216	\$ 227,582	\$ 254,846	\$ 265,000	\$ 250,000
Returned Cheque charge (plus bank charges)	\$ 12,380	\$ 10,084	\$ 10,300	\$ 8,599	\$ 8,700	\$ 9,200
Disconnect/Reconnect at meter – during regular hours	\$ 45,370	\$ 16,885	\$ 19,760	\$ 25,055	\$ 25,000	\$ 25,000
Disconnect/Reconnect at meter – after regular hours	\$ 4,625	\$ 4,995	\$ 4,855	\$ 5,365	\$ 5,400	\$ 5,200
Disconnect/Reconnect at pole – during regular hours	\$ -	\$ 7,165	\$ 3,517	\$ 6,585	\$ 7,300	\$ 5,800
Account set up charge / change of occupancy charge	\$ 189,030	\$ 182,575	\$ 182,280	\$ 184,320	\$ 185,290	\$ 184,000
Miscellaneous Service Revenues-Other	\$ 121,680	\$ 236,896	\$ 80,618	\$ 65,719	\$ 44,586	\$ 63,000
<b>Total</b>	<b>\$ 924,416</b>	<b>\$ 874,868</b>	<b>\$ 794,766</b>	<b>\$ 810,536</b>	<b>\$ 805,434</b>	<b>\$ 803,285</b>

4080-01 MicroFit Charges	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
	2011	2011	2012	2013	2014	2015
Reporting Basis	CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
MicroFit charges	\$ -	\$ 4,486	\$ 11,087	\$ 16,187	\$ 20,542	\$ 21,060
<b>Total</b>	<b>\$ -</b>	<b>\$ 4,486</b>	<b>\$ 11,087</b>	<b>\$ 16,187</b>	<b>\$ 20,542</b>	<b>\$ 21,060</b>

4082 Retail Services Revenues	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
	2011	2011	2012	2013	2014	2015
Reporting Basis	CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Retailer Service Agreement -- standard charge	\$ -	\$ 400	\$ 300	\$ -	\$ -	\$ -
Retailer Service Agreement -- monthly fixed charge (per retailer)	\$ 4,800	\$ 3,749	\$ 3,360	\$ 4,260	\$ 3,915	\$ 4,400
Retailer Service Agreement -- monthly variable charge (per customer)	\$ 50,363	\$ 40,001	\$ 28,415	\$ 24,879	\$ 25,252	\$ 25,015
Distributor-Consolidated Billing -- monthly charge (per customer)	\$ 25,586	\$ 24,000	\$ 17,049	\$ 14,867	\$ 15,151	\$ 15,009
Retailer-Consolidated Billing -- monthly credit (per customer)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	<b>\$ 80,749</b>	<b>\$ 68,150</b>	<b>\$ 49,123</b>	<b>\$ 44,006</b>	<b>\$ 44,318</b>	<b>\$ 44,424</b>

4084	Service Transaction Request	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
		2011	2011	2012	2013	2014	2015
Reporting Basis		CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Service Transaction Request -- request fee (per request)		\$ 1,215	\$ 668	\$ 469	\$ 391	\$ 376	\$ 383
Service Transaction Request -- processing fee (per processed)		\$ 1,755	\$ 1,230	\$ 854	\$ 680	\$ 648	\$ 664
<b>Total</b>		\$ 2,970	\$ 1,898	\$ 1,323	\$ 1,071	\$ 1,024	\$ 1,047

4086	SSS Admin Fee	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
		2011	2011	2012	2013	2014	2015
Reporting Basis		CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Residential		\$ 112,268	\$ 118,649	\$ 124,065	\$ 127,590	\$ 126,784	\$ 126,150
GS < 50		\$ 10,829	\$ 11,353	\$ 11,562	\$ 11,787	\$ 439	\$ 429
GS > 50		\$ 2,469	\$ 2,359	\$ 2,333	\$ 2,362	\$ 2,334	\$ 2,343
Streetlight		\$ 18	\$ 46	\$ 41	\$ 46	\$ 42	\$ 43
Sentinel Lights		\$ 510	\$ 351	\$ 81	\$ 15	\$ 13	\$ 14
USL		\$ -	\$ -	\$ 352	\$ 419	\$ 11,682	\$ 11,677
<b>Total</b>		\$ 126,094	\$ 132,759	\$ 138,433	\$ 142,218	\$ 141,294	\$ 140,656

4215	Other Utility Operating Income	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
		2011	2011	2012	2013	2014	2015
Reporting Basis		CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Sale of Scrap Materials		\$ 24,484	\$ 37,577	\$ 33,374	\$ 39,049	\$ 35,000	\$ 35,000
Transformer Rentals		\$ 7,932	\$ 6,087	\$ 9,309	\$ 9,309	\$ 8,100	\$ 9,000
<b>Total</b>		\$ 32,416	\$ 43,664	\$ 42,683	\$ 48,359	\$ 43,100	\$ 44,000

4305	Regulatory Debit	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
		2011	2011	2012	2013	2014	2015
Reporting Basis		CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Regulatory Debit - Accounting Change for Capital Assets							
Depreciation Lives		\$ -	\$ -	\$ -	(\$3,054,566)		
<b>Total</b>		\$ -	\$ -	\$ -	(\$3,054,566)	\$ -	\$ -

4355	Gain on Disposition of Utility and Other Property	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
		2011	2011	2012	2013	2014	2015
Reporting Basis		CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Vehicle - insurance settlement		\$ -	\$ 16,397	\$ -	\$ -		
Vehicle sales				\$ 359	\$ 11,121		
					\$ -		
<b>Total</b>		\$ -	\$ 16,397	\$ 359	\$ 11,121	\$ -	\$ -

4360	Loss on Disposition of Utility and Other Property	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
		2011	2011	2012	2013	2014	2015
Reporting Basis		CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Office equipment					(\$1,135)		
<b>Total</b>		\$ -	\$ -	\$ -	(\$1,135)	\$ -	\$ -

4362	Loss on Retirement of Utility & Other Property	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
		2011	2011	2012	2013	2014	2015
Reporting Basis		CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Retirement of 3 DS stations					(\$66,865)		
<b>Total</b>		\$ -	\$ -	\$ -	(\$66,865)	\$ -	\$ -

4375	Revenue from Non-Utility Operations	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
		2011	2011	2012	2013	2014	2015
Reporting Basis		CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Water Late Payment Charges		\$ 137,007	\$ 109,990	\$ 124,111	\$ 126,184	\$ 30,901	
Water Occupancy Charge Revenue		\$ 20,766	\$ 23,895	\$ 24,264	\$ 24,867	\$ 10,326	
Water Collection Charge Revenues		\$ 32,463	\$ 33,470	\$ 41,351	\$ 42,032	\$ 5,751	
Water Billing Administration Charge		\$ 295,169	\$ 321,444	\$ 319,021	\$ 321,230	\$ 85,781	\$ -
OPA Peak Saver and ERIP revenues		\$ 65,480	\$ 44,606	\$ 187,551	\$ 11,826	\$ -	\$ -
Installation of Poles for Bell Canada		\$ -	\$ 12,963	\$ -	\$ -	\$ -	\$ -
OPA fixed and incentive revenues		\$ -	\$ 788,596	\$ 1,129,621	\$ 1,515,821	\$ 1,499,364	
<b>Total</b>		\$ 550,885	\$ 1,334,964	\$ 1,825,918	\$ 2,018,308	\$ 1,632,123	\$ -

4380 Expenses from Non-Utility Operations	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
	2011	2011	2012	2013	2014	2015
Reporting Basis	CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Water Billing expenses	\$ 260,000	\$ 348,090	\$ 352,388	\$ 355,292	\$ 106,687	
OPA expenses and incentives	\$ -	\$ 788,596	\$ 1,129,621	\$ 1,515,822	\$ 1,499,364	
<b>Total</b>	\$ 260,000	\$ 1,136,686	\$ 1,482,009	\$ 1,871,114	\$ 1,606,051	\$ -

4390 Miscellaneous Non-Operating Income	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
	2011	2011	2012	2013	2014	2015
Reporting Basis	CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Apprenticeship Tax Credit	\$ 40,000	\$ 58,882	\$ 118,923	\$ 118,062	\$ 111,027	\$ 81,003
<b>Total</b>	\$ 40,000	\$ 58,882	\$ 118,923	\$ 118,062	\$ 111,027	\$ 81,003

4405 Interest and Dividend Income	2011 Board Approved Restated	2011 Actual	2012 Actual	2013 Actual <sup>2</sup>	Bridge Year <sup>3</sup>	Test Year
	2011	2011	2012	2013	2014	2015
Reporting Basis	CGAAP	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS
Interest and Dividend Income	\$ 82,668	\$ 85,242	\$ 120,365	\$ 116,875	\$ 120,000	\$ 100,000
Interest and Dividend Carrying Charges	\$ 45,195	\$ 55,431	\$ 54,350	\$ 63,298	\$ 187,684	\$ 57,000
<b>Total</b>	\$ 127,863	\$ 140,673	\$ 174,715	\$ 180,173	\$ 307,684	\$ 157,000

**Notes:**

- 1 List and specify any other interest revenue.
- 2 In the transition year to IFRS, the applicant is to present information in both MIFRS and CGAAP. For the typical applicant that is adopting



File Number: EB-2014-0096

Date Filed: September 23, 2014

## Exhibit 3

---

Tab 4 of 4

# Pass-Through Charges

## 1 Pass-Through Charges

2  
3 The attached schedule C5 shows NPEI's estimated power supply expenses for the 2014 Bridge  
4 Year and 2015 Test Year.

5  
6 The pass through charges include the commodity, retail transmission charges, wholesale  
7 market charges, rural rate protection, smart meter entity charge and low voltage charges.  
8 Details of these charges follow below.

### 9 10 **Commodity Price**

11  
12 The commodity price used in the model is based on the updated RPP Price Report for the  
13 Regulated Price Plan May 1, 2014 to April 30, 2015 issued by the Board on April 16, 2014. The  
14 estimated price for RPP customers is based on the average supply cost for RPP customers of  
15 \$92.50 per MWh, which is specified in Table ES-1 of the Report. For non-RPP customers, the  
16 estimated price is based on the Forecast Wholesale Electricity Price of \$26.28 per MWh, plus  
17 the Impact of the Global Adjustment of \$64.68 per MWh, for a total of \$90.96 per MWh. The  
18 resulting weighted-average commodity price, based on NPEI's proportion of RPP and non-RPP  
19 kWh, is \$91.63 per MWh. The calculation of the commodity price is provided in the attachment  
20 below. See attached schedule labeled C4 included at the end of Exhibit 3 Tab 4.

### 21 22 **Retail Transmission Service ("RTSR") Rates**

23  
24 The proposed RTSR rates for Network and Connection Charges are described in Exhibit 8, Tab  
25 3, Schedule 1. The proposed RTSR rates were determined using the RTSR Adjustment Work  
26 form version 4.0 issued by the Board on June 26, 2014. A copy of the RTSR model is included  
27 in Exhibit 8 Tab 3 Schedule 1.



1 **Wholesale Market Service (“WMS”) Rate**

2

3 NPEI proposes to maintain the current WMS rate of \$0.0044 per kWh, as described in  
4 Exhibit 8, Tab 5, Schedule 1.

5

6 **Rural or Remote Electricity Rate Protection (“RRRP”) Charge**

7

8 NPEI proposes to maintain the current RRRP charge of \$0.0013 per kWh, as described in  
9 Exhibit 8, Tab 5, Schedule 1.

10

11 **Rate Rider for Smart Metering Entity Charge**

12

13 The Smart Meter Entity Charge, at a cost of \$0.79 cents per month, is charged to Residential  
14 and GS < 50 kW customers, and is effective until October 31, 2018.

15

16 **Low Voltage Charges**

17

18 NPEI’s projected 2015 Test Year low voltage charges are described in Exhibit 8, Tab 8,  
19 Schedule 1.

20

21 The attachments provide a summary of Pass Through charges for 2014 and 2015.

22



File Number:EB-2014-0096

Exhibit: 3

Tab: 4

Schedule: 1

Date Filed:September 23, 2014

## Attachment 1 of 1

# Pass Through Charges Summary for 2014 and 2015

### C5 Pass-through Charges

Volumes from sheet C1, Account #s from sheet Y4

Enter rates for pass-through charges and estimated Low Voltage revenues

Electricity (Commodity)	Customer Class Name	Revenue USA #	Expense USA #	2014 rate (\$/kWh):		\$ 0.09163	2015 rate (\$/kWh):		\$ 0.09163
				Volume	Amount	Volume	Amount		
kWh	Residential	4006	4705	421,452,867		38,618,425	418,296,544		38,329,205
kWh	General Service < 50 kW	4010	4705	126,285,583		11,571,757	124,431,272		11,401,844
kWh	General Service > 50	4035	4705	683,099,206		62,593,512	689,489,049		63,179,024
kWh	Unmetered Scattered Load	4010	4705	2,338,339		214,266	2,321,201		212,696
kWh	Sentinel Lighting	4030	4705	275,102		25,208	271,893		24,914
kWh	Street Lighting	4025	4705	7,766,241		711,634	7,836,336		718,056
	<b>TOTAL</b>			<b>1,241,217,338</b>		<b>113,734,802</b>	<b>1,242,646,296</b>		<b>113,865,739</b>
Transmission - Network	Customer Class Name	Revenue USA #	Expense USA #	2014		Amount	2015		Amount
				Volume	Rate		Volume	Rate	
kWh	Residential	4066	4714	421,452,867	\$ 0.0073	3,076,606	418,296,544	\$ 0.0076	3,188,583
kWh	General Service < 50 kW	4066	4714	126,285,583	\$ 0.0066	833,485	124,431,272	\$ 0.0069	857,559
kW	General Service > 50	4066	4714	1,723,755	\$ 2.7218	4,691,717	1,739,879	\$ 2.8421	4,944,997
kWh	Unmetered Scattered Load	4066	4714	2,338,339	\$ 0.0066	15,433	2,321,201	\$ 0.0069	15,997
kW	Sentinel Lighting	4066	4714	713	\$ 2.0152	1,438	705	\$ 2.1043	1,484
kW	Street Lighting	4066	4714	20,995	\$ 2.0576	43,199	21,184	\$ 2.1486	45,516
					\$ -				
	<b>TOTAL</b>			<b>551,822,253</b>		<b>8,661,877</b>	<b>546,810,786</b>		<b>9,054,136</b>
Transmission - Connection	Customer Class Name	Revenue USA #	Expense USA #	2014		Amount	2015		Amount
				Volume	Rate		Volume	Rate	
kWh	Residential	4068	4716	421,452,867	\$ 0.0050	2,107,264	418,296,544	\$ 0.0052	2,163,990
kWh	General Service < 50 kW	4068	4716	126,285,583	\$ 0.0044	555,657	124,431,272	\$ 0.0046	566,478
kW	General Service > 50	4068	4716	1,723,755	\$ 1.7467	3,010,883	1,739,879	\$ 1.8073	3,144,405
kWh	Unmetered Scattered Load	4068	4716	2,338,339	\$ 0.0044	10,289	2,321,201	\$ 0.0046	10,567
kW	Sentinel Lighting	4068	4716	713	\$ 1.4595	1,041	705	\$ 1.5101	1,065
kW	Street Lighting	4068	4716	20,995	\$ 1.3420	28,175	21,184	\$ 1.3885	29,415
	<b>TOTAL</b>			<b>551,822,253</b>		<b>5,713,309</b>	<b>546,810,786</b>		<b>5,915,920</b>

### C5 Pass-through Charges

Volumes from sheet C1, Account #s from sheet Y4

Enter rates for pass-through charges and estimated Low Voltage revenues

Wholesale Market Service	Customer Class Name	Revenue USA #	Expense USA #	2014		2015			
				rate (\$/kWh):	\$	rate (\$/kWh):	\$		
				Volume	Amount	Volume	Amount		
kWh	Residential	4062	4708	421,452,867	\$ 0.0044	1,854,393	418,296,544	\$ 0.0044	1,840,505
kWh	General Service < 50 kW	4062	4708	126,285,583	\$ 0.0044	555,657	124,431,272	\$ 0.0044	547,498
kWh	General Service > 50	4062	4708	683,099,206	\$ 0.0044	3,005,637	689,489,049	\$ 0.0044	3,033,752
kWh	Unmetered Scattered Load	4062	4708	2,338,339	\$ 0.0044	10,289	2,321,201	\$ 0.0044	10,213
kWh	Sentinel Lighting	4062	4708	275,102	\$ 0.0044	1,210	271,893	\$ 0.0044	1,196
kWh	Street Lighting	4062	4708	7,766,241	\$ 0.0044	34,171	7,836,336	\$ 0.0044	34,480
	<b>TOTAL</b>			<b>1,241,217,338</b>		<b>5,461,356</b>	<b>1,242,646,296</b>		<b>5,467,644</b>
Rural Rate Protection	Customer Class Name	Revenue USA #	Expense USA #	2014		2015			
				rate (\$/kWh):	\$	rate (\$/kWh):	\$		
				Volume	Amount	Volume	Amount		
kWh	Residential	4062	4708	421,452,867	\$ 0.0013	547,889	418,296,544	\$ 0.00130	543,786
kWh	General Service < 50 kW	4062	4708	126,285,583	\$ 0.0013	164,171	124,431,272	\$ 0.00130	161,761
kWh	General Service > 50	4062	4708	683,099,206	\$ 0.0013	888,029	689,489,049	\$ 0.00130	896,336
kWh	Unmetered Scattered Load	4062	4708	2,338,339	\$ 0.0013	3,040	2,321,201	\$ 0.00130	3,018
kWh	Sentinel Lighting	4062	4708	275,102	\$ 0.0013	358	271,893	\$ 0.00130	353
kWh	Street Lighting	4062	4708	7,766,241	\$ 0.0013	10,096	7,836,336	\$ 0.00130	10,187
	<b>TOTAL</b>								
Low Voltage Charges	Customer Class Name	Revenue USA #	Expense USA #	2014		2015			
				Volume	Rate	Volume	Rate		
kWh	Residential	4075	4750	402,178,821	\$0.0005	399,166,843	0.0005		
kWh	General Service < 50 kW	4075	4750	120,510,242	\$0.0004	48,204	118,740,733	0.0004	
kWh	General Service > 50	4075	4750	1,723,755	\$0.1592	274,422	1,739,879	0.1643	
kWh	Unmetered Scattered Load	4075	4750	2,231,402	\$0.0004	893	2,215,047	0.0004	
kWh	Sentinel Lighting	4075	4750	713	\$0.1330	95	705	0.1372	
kWh	Street Lighting	4075	4750	20,995	\$0.1223	2,568	21,184	0.1262	
	<b>TOTAL</b>			<b>526,665,927</b>		<b>527,270</b>	<b>521,884,392</b>		
Smart Metering Entity	Customer Class Name	Revenue USA #	Expense USA #	2014		2015			
				Volume	Amount	Volume	Amount		
kWh	Residential	4076	4751	402,178,821	46,669	399,166,843	47,067		
kWh	General Service < 50 kW	4076	4751	120,510,242	4,350	118,740,733	4,385		
kWh	General Service > 50	4076	4751	651,859,447		657,957,068			
kWh	Unmetered Scattered Load	4076	4751	2,231,402		2,215,047			
kWh	Sentinel Lighting	4076	4751	262,521		259,459			
kWh	Street Lighting	4076	4751	7,411,072		7,477,962			
	<b>TOTAL</b>			<b>1,184,453,504</b>		<b>483,659</b>	<b>1,185,817,112</b>		
<b>GRAND TOTAL</b>						<b>136,195,856</b>		<b>136,943,243</b>	

**Niagara Peninsula Energy Inc. (ED-2007-0749)**  
**2015 EDR Application (EB-2014-0096) version: Initial**  
**August 31, 2014**

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Exhibit	3
Tab	4
Schedule	1
Attachment	1

## C4 Commodity Price

*Enter actual non-RPP kWh's and forecast prices*

Customer Class Name	2013 ACTUAL kWh's		
	Total	non-RPP	RPP
Residential	412,298,278	32,043,238	380,255,040
General Service < 50 kW	124,179,905	17,517,446	106,662,459
General Service > 50	655,968,805	621,052,486	34,916,319
Unmetered Scattered Load	2,247,877	-	2,247,877
Sentinel Lighting	265,619	50,679	214,940
Street Lighting	7,344,781	7,266,795	77,986
<b>TOTAL</b>	<b>1,202,305,265</b>	<b>677,930,643</b>	<b>524,374,622</b>
%	100.00%	56.39%	43.61%
<b>Forecast Price</b>			
HOEP (\$/MWh)		\$ 26.28	
Global Adjustment (\$/MWh)		\$ 64.68	
<b>TOTAL (\$/MWh)</b>		<b>\$90.96</b>	<b>\$ 92.50</b>
<b>\$/kWh</b>		<b>\$0.09096</b>	<b>\$0.09250</b>
%		56.39%	43.61%
<b>WEIGHTED AVERAGE PRICE</b>	<b>\$0.0916</b>	<b>\$0.0513</b>	<b>\$0.0403</b>