Burlington Hydro Inc. Filed: 1 October, 2013 EB-2013-0115 Exhibit 3

Exhibit 3:

REVENUE

Burlington Hydro Inc. Filed:1 October, 2013 EB-2013-0115 Exhibit 3 Tab 1

Exhibit 3: Revenue

Tab 1 (of 3): Load and Revenue Forecast

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OVERVIEW

The evidence presented in this exhibit provides information supporting the revenues derived from activities regulated by the OEB. Actual operating revenues from the regulated operations come mainly from fixed and variable tariff charges as well as pass through charges and specific service charges.

6

1

Burlington Hydro's 2014 forecasted revenues recovered through its currently approved distribution rates will be \$29,397,185 (exclusive of all rate riders). This amount is determined by applying the currently approved distribution rates to the forecasted consumption and customer counts. Projected Revenues at current rates are presented below. Burlington Hydro's distribution revenues have increased modestly since 2010 at a rate less than inflation due to the combined effects of:

13

Rate increases authorized by the OEB through rates applications
pursuant to the OEB's 3G IRM;

- increased number of customers, particularly in the residential customer
 class; and
- Conservation and Demand Management ("CDM") achievements that
 materially and successfully offset the increased loads that these new
 customers would have otherwise imposed on the distribution system and
 mitigated naturally occurring increases in energy and demand
 experienced by existing customers.

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1 Table 3-1: Bridge Year Projected Revenue from Existing Variable Charges

Bridge Year

		Bridge Year Projected Revenue from Existing Variable Charges						
	Variable			Gross	Transform.	Transform.	Transform.	Net
Customer Class Name	Distribution	per	Bridge Year Volume	Variable	Allowance	Allowance	Allowance	Variable
	Rate			Revenue	Rate	kW's	\$'s	Revenue
Residential	\$0.0167	kWh	553,523,828	9,243,848			0	9,243,848
General Service < 50 kW	\$0.0137	kWh	173,805,678	2,381,138			0	2,381,138
General Service > 50 to 4999 kW	\$2.8723	kW	2,408,607	6,918,242	(\$0.60)	951,749	-571,049	6,347,193
Unmetered Scattered Load	\$0.0179	kWh	3,353,868	60,034			0	60,034
Street Lighting	\$4.4300	kW	27,848	123,367			0	123,367
Total Variable Revenue			733,119,829	18,726,628		951,749	-571,049	18,155,579

2 Table 3-2: Bridge Year Projected Revenue from Existing Fixed Charges

Bridge Year

	-							
		Bridge Year Projected Revenue from Existing Fixed Charges						
Customer Class Name	Fixed Rate	Customers (Connections)	Fixed Charge Revenue	Variable Revenue	TOTAL	% Fixed Revenue	% Variable Revenue	% Total Revenue
Residential	\$12.2900	59,698	8,804,261	9,243,848	18,048,109	48.78%	51.22%	61.08%
General Service < 50 kW	\$25.5300	5,205	1,594,604	2,381,138	3,975,742	40.11%	59.89%	13.46%
General Service > 50 to 4999 kW	\$72.7700	1,006	878,479	6,347,193	7,225,672	12.16%	87.84%	24.45%
Unmetered Scattered Load	\$10.3400	25	3,102	60,034	63,136	4.91%	95.09%	0.21%
Street Lighting	\$0.6100	15,297	111,974	123,367	235,341	47.58%	52.42%	0.80%
Total Fixed Revenue		81,231	11,392,420	18,155,579	29,548,000			

3

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1 Table 3-3:Test Year Projected Revenue from Existing Variable Charges

Test Year

		Test Year Projected Revenue from Existing Variable Charges						
	Variable			Gross	Transform.	Transform.	Transform.	Net
Customer Class Name	Distribution	per	Test Year Volume	Variable	Allowance	Allowance	Allowance	Variable
	Rate			Revenue	Rate	kW's	\$'s	Revenue
Residential	\$0.0167	kWh	546,525,120	9,126,970			0	9,126,970
General Service < 50 kW	\$0.0137	kWh	170,872,330	2,340,951			0	2,340,951
General Service > 50 to 4999 kW	\$2.8723	kW	2,368,532	6,803,134	(\$0.60)	951,749	-571,049	6,232,085
Unmetered Scattered Load	\$0.0179	kWh	3,291,359	58,915			0	58,915
Street Lighting	\$4.4300	kW	27,718	122,791			0	122,791
Total Variable Revenue			723,085,059	18,452,761		951,749	-571,049	17,881,712

2

3 Table 3-4: Test Year Projected Revenue from Existing Fixed Charges

Test Year

	Test Year Projected Revenue from Existing Fixed Charges							
Customer Class Name	Fixed Rate	Customers (Connections)	Fixed Charge Revenue	Variable Revenue	TOTAL	% Fixed Revenue	% Variable Revenue	% Total Revenue
Residential	\$12.2900	60,335	8,898,206	9,126,970	18,025,175	49.37%	50.63%	61.32%
General Service < 50 kW	\$25.5300	5,272	1,615,130	2,340,951	3,956,081	40.83%	59.17%	13.46%
General Service > 50 to 4999 kW	\$72.7700	1,014	885,465	6,232,085	7,117,551	12.44%	87.56%	24.21%
Unmetered Scattered Load	\$10.3400	25	3,102	58,915	62,017	5.00%	95.00%	0.21%
Street Lighting	\$0.6100	15,515	113,570	122,791	236,361	48.05%	51.95%	0.80%
Total Fixed Revenue		82,161	11,515,473	17,881,712	29,397,185			

Variance Analysis

	Bridge Year to Test Year Variance					
Customer Class Name	2013	2014	Variance	% change		
Residential	\$18,048,108.97	\$18,025,175.30	-22,934	-0.13%		
General Service < 50 kW	\$3,975,741.59	\$3,956,080.84	-19,661	-0.49%		
General Service > 50 to 4999 kW	\$7,225,672.19	\$7,117,550.69	-108,122	-1.50%		
Unmetered Scattered Load	\$63,136.24	\$62,017.33	-1,119	-1.77%		
Street Lighting	\$235,340.68	\$236,360.54	1,020	0.43%		
Total Fixed Revenue	29,548,000	29,397,185	-150,815	-0.51%		

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1 Burlington Hydro's load forecast is based on a regression model which relates monthly 2 historical purchases to monthly weather conditions (measured in cooling-degree-days 3 ("CDD") and heating-degree days (HDD)), and other variables (such as monthly full-time 4 employment for the Toronto Economic Region) which are discussed in detail at Exhibit 5 3, Tab 1, Schedule 2, Attachment 1. Burlington Hydro has adopted a new Load 6 Forecasting methodology versus that used in its 2010 Cost of Service application (EB-7 2009-0259). The new methodology uses customer class specific regression equations 8 to forecast billed energy and uses weather data gathered at Pearson International 9 Airport. The load forecast methodology and assumptions are described in detail at 10 Exhibit 3, Tab 1, Schedule 2.

11

Further adjustments for projected Conservation and Demand Management ("CDM") reductions and estimated distribution losses are made to derive distribution sales. Burlington Hydro has applied currently approved rates to the test year customer and sales forecast in order to derive the test year distribution revenue. Projected Revenues at current and proposed rates are presented at Tab 1 of this Exhibit. Other Revenues are discussed at Tab 3 of this Exhibit and the derivation of the Power Supply Expense is presented at Exhibit 9, Tab 3, Schedule 1.

19

The table below shows the actual and forecast trends for customer/connection counts, kWh consumption and billed kW demand. The derivation of forecast for the Test Year can be found at Exhibit 3, Tab 1, Schedule 2 Attachment 2.

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Customer Class Name	2009 Actual	2010 Actual	2011 Actual	2012 Actual	Bridge Year 2013 Normalized	Test Year 2014 Normalized
Residential	57,218	57,917	58,488	59,068	59,698	60,335
General Service < 50 kW	4,942	4,988	5,091	5,138	5,205	5,272
General Service > 50 to 4999 kW	976	996	987	998	1,006	1,014
Unmetered Scattered Load	26	26	25	25	25	25
Street Lighting	14,457	14,652	15,024	15,083	15,297	15,515
MicroFit						
TOTAL	77,619	78,579	79,615	80,312	81,231	82,161
Metered kWh						
Customer Class Name	2009 Actual	2010 Actual	2011 Actual	2012 Actual	Bridge Year 2013 Normalized	Test Year 2014 Normalized
Residential	523,950,900	556,896,336	551,353,006	551,839,571	553,523,828	556,904,597
General Service < 50 kW	172,363,092	172,200,325	174,484,065	174,704,767	173,805,678	174,117,497
General Service > 50 to 4999 kW	879,095,420	906,197,008	908,229,110	903,337,846	897,955,770	899,785,875
Unmetered Scattered Load	3,487,625	3,512,551	3,296,779	3,353,868	3,353,868	3,353,868
Street Lighting	9,391,179	9,467,387	9,847,280	9,866,380	10,006,706	10,149,029
MicroFit						
TOTAL	1,588,288,216	1,648,273,607	1,647,210,240	1,643,102,432	1,638,645,850	1,644,310,866
kW						
Customer Class Name	2009 Actual	2010 Actual	2011 Actual	2012 Actual	Bridge Year 2013 Normalized	Test Year 2014 Normalized
Residential						
General Service < 50 kW						
General Service > 50 to 4999 kW	2,353,210	2,403,006	2,396,756	2,423,043	2,408,607	2,413,515
Unmetered Scattered Load						
Street Lighting	25,861	26,416	27,334	27,457	27,848	28,244
MicroFit						
TOTAL	2,379,071	2,429,422	2,424,090	2,450,500	2,436,455	2,441,759
2						

Table 3-5: Proposed 2014 Load Forecast

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APPROACH TO WEATHER NORMALIZED LOAD FORECAST

3 Burlington Hydro retained Elenchus Research Associates Inc. ("Elenchus") to prepare a 4 weather normalization methodology and a weather normalized Load Forecast for the 5 2013 and 2014 calendar years. The methodology used by Elenchus involves using 6 customer class specific regression models that relate monthly historical class specific 7 purchases to observed monthly weather conditions (measured in cooling-degree-days 8 ("CDD") and heating-degree days (HDD)), and other variables (e.g., economic activity). 9 The Report stipulates that Elenchus did not explicitly adjust the historic load data for 10 CDM impacts. The derivation and testing of these regression equations, along with their 11 statistical validity are discussed in detail in Elenchus' "Load Forecast" report that is 12 provided at Exhibit 3, Tab 1 Schedule 1, Attachment 1.

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14 Elenchus' 2014 Weather Adjusted Load Forecast for Burlington Hydro differs from Burlington Hydro's EB-2009-0259 Load Forecast in 2 respects. First, Burlington Hydro's 15 16 EB-2009-0259 Load Forecast relied on a different methodology that, among other 17 things, resulted in counter-intuitive signs for certain coefficients. The customer class 18 specific regression equations that support Elenchus' Weather Adjusted Load Forecast 19 overcome this concern. Second, Burlington Hydro's 2010 CoS Application relied on 20 weather data from Environment Canada's Hamilton "A" weather station whereas Elenchus' 2014 Weather Adjusted Load Forecast uses weather data from Environment 21 22 Canada's Pearson Airport Station. Burlington Hydro notes that this change overcomes 23 a comparability concern related to elevation (specifically, Burlington's elevation is 74m 24 and is closer to that of Pearson "A" (elevation: 173m) than is Hamilton "A" (elevation: 25 238m)) and is consistent with the weather series that Hydro One Networks Inc. ("HONI") 26 used when preparing Burlington Hydro's Load Data Analysis for the 2006 Cost Allocation 27 Review – Informational Filing.

28

29 While Elenchus' Weather Adjusted Load Forecast assumes some level of embedded 30 "natural conservation", it does not explicitly take into account the impacts on customer's

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energy and demand requirements arising from recent CDM programs undertaken by
Burlington Hydro's customers. The Weather Adjusted Load Forecast values project the
continued offering of CDM programs and historic achievements. Therefore, the
forecasted energy purchases are further adjusted to reflect incremental CDM
achievements attributable to programs that will be offered in 2013 and 2014.

6

7 Burlington Hydro also retained Elenchus to quantify the demand and energy impacts of 8 the new CDM programs that it will offer to the inhabitants of its service area in 2013 and 9 2014. The overall CDM adjustment for 2014 is a 18,150,397 kWh reduction to the 10 Weather Adjusted energy forecast and a 7,100 kW reduction to the unadjusted demand 11 forecast. The detailed derivation of the impacts is provided at Exhibit 3, Tab 1 Schedule 12 3. Elenchus has, for a number of years now, provided load forecasting studies for 13 numerous LDCs. Elenchus' load forecasting methodology was previously accepted by 14 the OEB in cases such as Greater Sudbury Hydro (EB-2012-0126), Westario Power Inc. 15 (EB-2012-0176) and Bluewater Power Distribution Corp. (EB-2012-0107).

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Attachment 1 (of 1):

Load Forecast Report



Weather Normalized Distribution System Load Forecast – 2014 Test Year

A Report Prepared by Elenchus Research Associates Inc.

On Behalf of Burlington Hydro Inc.

April 12, 2013

1 INTRODUCTION

This report outlines the results and methodology used to derive the weather normal load forecast prepared for use in the COS application for 2014 rates for Burlington Hydro Inc. (BHI). A weather normal load forecast is developed for the bridge year (2013) and test year (2014) and weather normalized historical consumption is also derived. The forecast for BHI Power is based on monthly class specific retail data do not include losses; therefore, distribution system losses are not part of the class retail volumes.

In order to isolate demand determinants at the class specific level, separate multiple regression equations have been estimated to weather normalize and forecast kWh consumption for the residential and GS<50 classes and GS>50 classes. Consumption for Street Lighting and Unmetered Scattered Load (USL) is not considered weather sensitive, and these forecasts are based on trends in customer connections and recent average use.

More details on the forecasting methodology for each class are provided below.

2 **CLASS SPECIFIC FORECASTS – WEATHER SENSITIVE**

In order to determine the relationship between observed weather and energy consumption, monthly weather observations describing the extent of heating or cooling required within the month are necessary. Environment Canada publishes monthly observations on heating degree days (HDD) and cooling degree days (CDD) for selected weather stations across Canada. Heating degree days for a given day are the number of Celsius degrees that the mean temperature is below 18°C. Cooling degree days for a given day are the number of Celsius degrees that the mean temperature is above 18°C. For BHI, the monthly HDD and CDD as reported at Pearson International Airport (YYZ) have been used.

In order to measure the change in economic activity, a data series must be chosen which represents as much as possible, regional economic activity, and is available in a timely manner and on a monthly basis. For BHI, monthly full-time employment for the Toronto Economic Region, as reported in Statistics Canada's Monthly Labour Force Survey (Table 282-0054, Full-time employment, Toronto, Ontario [3530]) is utilized.

A variable representing the number of days in the month (MonthDays) is also used. In addition, a binary variable representing "shoulder" period months' consumption has also been included. In recent cost-of-service filings in which Elenchus has participated, both Board Staff and intervenors have requested that this variable be included for testing. For the BHI forecast, a shoulder period variable that designates the months of March, April, May, September, October and November as shoulder months (Shoulder1) was used for the Residential and GS<50 classes. Therefore, the variable takes a value of 1 in these months and a value of 0 in all other months. For the GS>50 class, this binary variable was not statistically

significant. However, a shoulder period variable that designated the months of April, May, June, October, November and December as shoulder months, i.e., actual Spring and Fall months (Shoulder2) was statistically significant and was therefore included.

Two other binary variables have also been utilized to generate the load forecast for BHI. A binary variable representing a structural change in class consumption for each of the GS<50 and GS>50 classes has been included. Both of these classes appear to have undergone a permanent change in class throughput, GS<50 in 2007 and GS>50 in October 2008. Including these two variables allows the use of a longer time series in the regression analysis. These are binary variables that have a value of 0 in the first period and a value of 1 in the second period. The alternative is to exclude the structural change variable and use a shorter time series. In recent cost-of-service filings that Elenchus has participated, Elenchus has observed that Board Staff and intervenors appear to prefer longer time series when possible. Therefore, these structural change variables have been included and are found to be statistically significant.

2.1 RESIDENTIAL CLASS

Using the monthly class consumption and explanatory variables, a regression model has been estimated for residential class kWh consumption. The resulting equation, estimated using the 132 observations from 2002:01-2012:12 is shown in the following table:

Table 1: Residential kWh Model OLS using observations 2002:01-2012:12 (T = 132)						
Dependent variable	e: ReskWh					
	coefficient	t-ratio	p-value			
const	-28,750,083.1	-3.88	0.00017			
PearsonHDD	6,617.2	5.81	4.70E-08			
PearsonCDD	102,999.2	16.54	2.28E-33			
TorFTE	8,213.7	4.96	2.3E-06			
MonthDays	1,622,929.1	7.55	7.56E-12			
Shoulder1	-2,777,562.7	-5.94	2.6E-08			
R-squared	0.907 Adjusted	d R-squared	0.903			
F(5, 126)	245.7 P-value(F)	3.53E-63			
D-W	1.91 Theil's U		0.338			

The explanatory variable called Shoulder1 is a binary variable, as is explained in the Introduction. Monthly actual vs. predicted observations are plotted in the chart (Chart 1) below:

-



Annual estimates using actual weather are compared to actual values in the table below. Mean absolute percentage error (MAPE) for annual estimates for the period is 1.1%. Annual errors are calculated as the model is used to derive annual forecasts. However, in recent proceedings Elenchus has been involved in, intervenors and Board Staff have requested MAPE calculated on a monthly basis and this has been provided as well. The MAPE calculated monthly over the period is 3.2%.

Table 2 – Residential kWh Actual vs Predicted							
Year	Actual Res kWh	Predicted Res kWh	Absolute % Error				
2002	545,789,346	533,963,159	2.2%				
2003	513,571,047	521,300,331	1.5%				
2004	504,901,688	515,870,780	2.2%				
2005	556,624,494	547,575,230	1.6%				
2006	528,257,058	533,057,661	0.9%				
2007	545,471,574	546,644,181	0.2%				
2008	535,976,112	535,237,609	0.1%				
2009	523,950,900	520,057,394	0.7%				
2010	556,896,336	548,796,286	1.5%				
2011	551,353,006	552,314,422	0.2%				
2012	551,839,571	559,814,079	1.4%				
	Mean Absolute Pe	rcentage Error (Annual)	1.1%				
	Mean Absolute Perc	entage Error (Monthly)	3.2%				

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2.2 <u>GS<50 KW CLASS</u>

Using the monthly class consumption and explanatory variables, a regression model has been estimated for GS<50 class kWh consumption. The resulting equation, estimated using the 123 observations from 2002:10-2012:12 is shown in the following table:

Table 3: GS<50 kWh Model								
OLS using observations 2002:10-2012:12 (T = 123)								
Dependent variabl	Dependent variable: GSlt50kWh							
	coefficient	t-ratio	p-value					
const	5,003,562.5	4.09	8.14E-05					
PearsonHDD	2,774.6	12.79	6.67E-24					
PearsonCDD	14,986.8	11.26	2.51E-20					
Shoulder1	-422,554.9	-4.75	5.88E-06					
MonthDays	246,870.2	6.08	1.59E-08					
GSltStrucD	882,250.9	13.93	1.59E-26					
d_TorFTE_1	4,146.5	1.99	0.049					
R-squared	0.880 Adjusted	R-squared	0.874					
F(6, 116)	142.1 P-value(F	-)	4.85E-51					
D-W	1.79 Theil's U		0.353					

The regression analysis for both GS classes use observations starting in October 2002 due to anomalous monthly consumption in both these classes earlier in 2002.

The explanatory variable d_TorFTE_1 is the first difference of Toronto Economic Region full-time employment ('000s) lagged 1 period; that is $(TorFTE_t - TorFTE_{t-1})_{t-1}$. The explanatory variables Shoulder1 and GSltStrucD are binary variables, as explained in the Introduction. GSltStrucD is the structural change binary variable for the GS<50 class.

Monthly actual vs. predicted observations are plotted in the chart (Chart 2) below:

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-



Annual estimates using actual weather are compared to actual values in the table below. Mean absolute percentage error (MAPE) for annual estimates for the period is 0.7%. The MAPE calculated monthly over the period is 1.9%.

Table 1 – GS-50 kWh Actual vs Predicted							
Year	Actual GS<50 kWh	Predicted GS<50 kWh	Absolute % Error				
2003	164,870,095	163,660,460	0.7%				
2004	159,898,814	161,889,802	1.2%				
2005	165,624,026	166,584,523	0.6%				
2006	164,584,172	162,648,135	1.2%				
2007	177,274,923	175,348,531	1.1%				
2008	173,814,745	173,308,790	0.3%				
2009	172,363,092	171,630,840	0.4%				
2010	172,200,325	174,779,230	1.5%				
2011	174,484,065	174,799,506	0.2%				
2012	174,704,767	174,975,020	0.2%				
	Mean Absolute	Percentage Error (Annual)	0.7%				
	Mean Absolute P	ercentage Error (Monthly)	1.9%				

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2.3 <u>GS>50 KW CLASS</u>

Using the monthly class consumption and explanatory variables, a regression model has been estimated for GS<50 class kWh consumption. The resulting equation, estimated using the 123 observations from 2002:10-2012:12 is shown in the following table: ***

Table 5: GS>50 kWh Model							
OLS using observations 2002:10-2012:12 (T = 123)							
Dependent variabl	e: GSgt50kWh						
	coefficient	t-ratio	p-value				
const	32,691,307.8	5.32	5.21217E-07				
PearsonHDD	5,845.8	5.84	4.94892E-08				
PearsonCDD	56,264.0	10.52	1.43743E-18				
Shoulder2	-1,762,154.7	-4.53	1.4649E-05				
MonthDays	1,472,960.4	7.25	4.95606E-11				
GSgtStrucD	-5,236,601.6	-16.45	4.25144E-32				
d_TorFTE_1	24,336.5	2.17	0.032141986				
R-squared	0.864 Adju	sted R-squared	0.857				
F(6, 116)	122.5 P-va	lue(F)	8.32E-48				
D-W	1.65 Thei	l's U	0.383				

The regression analysis for both GS classes use observations starting in October 2002 due to anomalous monthly consumption in both these classes earlier in 2002.

The explanatory variable d_TorFTE_1 is the first difference of Toronto Economic Region full-time employment ('000s) lagged 1 period; that is $(TorFTE_t - TorFTE_{t-1})_{t-1}$. The explanatory variables Shoulder2 and GSgtStrucD are binary variables, as explained in the Introduction. GSgtStrucD is the structural change binary variable for the GS>50 class.

Monthly actual vs. predicted observations are plotted in the chart (Chart 3) below:

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Annual estimates using actual weather are compared to actual values in the table below. Mean absolute percentage error (MAPE) for annual estimates for the period is 0.8%. The MAPE calculated monthly over the period is 1.6%.

Table 6 – GS>50 kWh Actual vs Predicted								
Year	Actual GS>50 kWh	Predicted GS>50 kWh	Absolute % Error					
2003	948,772,253	961,643,798	1.4%					
2004	961,376,211	956,257,168	0.5%					
2005	995,372,696	974,058,437	2.1%					
2006	964,783,883	960,193,448	0.5%					
2007	969,279,393	967,342,872	0.2%					
2008	933,504,991	943,549,262	1.1%					
2009	879,095,420	889,015,708	1.1%					
2010	906,197,008	903,329,126	0.3%					
2011	908,229,110	902,303,366	0.7%					
2012	903,337,846	906,284,469	0.3%					
	Mean Absolute	Percentage Error (Annual)	0.8%					
	Mean Absolute Pe	ercentage Error (Monthly)	1.6%					

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2.4 WEATHER NORMALIZATION AND FORECASTED KWH

It is not possible to accurately forecast weather for months or years in advance. Therefore, one can only base future weather expectations on what has happened in the past. Individual years may experience unusual spells of weather (unusually cold winter, unusually warm summer, etc.). However, over time, these unusual spells "average" out. While there may be trends over several years (e.g., warmer winters for example), using several years of data rather than one particular year filters out the extremes of any particular year. While there are several different approaches to determining an appropriate weather normal, BHI has adopted the most the most recent 10 year monthly degree day average as the definition of weather normal, which to our knowledge, is consistent with many LDCs load forecast filings for cost-of-service rebasing applications.

The table below displays the most recent 10 year average of heating degree days and cooling degree days as reported by Environment Canada for Pearson International Airport, which is used as the weather station for BHI.

	2003-2012				
	10-yr i	normal			
	HDD	CDD			
Jan	719.2	0.0			
Feb	635.7	0.0			
Mar	522.9	0.0			
Apr	309.9	0.4			
May	147.5	16.3			
Jun	26.8	72.2			
Jul	1.6	137.5			
Aug	5.1	109.9			
Sep	55.1	33.2			
Oct	243.4	3.4			
Nov	400.5	0.0			
Dec	603.1	0.0			
Annual	3,670.8	372.9			

Table 7: 10-yr HDD and CDD, Pearson International Airport

Forecasts for Ontario's employment outlook for 2013 and 2014 are available from four Canadian Chartered Banks at time of writing. Their forecasts are summarized below.

Table 8 - Employment Forecast – Ontario						
	(figures in annual percentage change)					
	BMO	RBC	Scotia	TD	Avg	
	(Apr 5, 2013)	(Mar, 2013)	(Mar 27, 2012)	(Apr 4 ,2013)		
2012	1.2	1.3	1.0	1.3	1.2	
2013	1.4	1.4	1.0	1.2	1.3	

In order to give the annual forecast change in employment a monthly periodicity, monthly employment levels for 2011 and 2012 are compared to the annual average for each of these years. For each month, the average ratio of monthly employment level to annual average employment for 2011 and 2012, respectively, is used to project the monthly employment into 2013 and 2014. The annual average of each forecast year (2013 and 2014) will result in an annual increase over the previous year equal to the percentage averages in Table 8.

Incorporating the forecast economic variables, 10-yr weather normal heating and cooling degree days, and other variables, the following weather corrected consumption and forecast values are calculated:

Table 9: Weather Corrected Consumption for Burlington Hydro							
			10-yr (2003-2012)				
Year	Actual residential kWh	%chg	Weather Normal	%chg			
2004	504,901,688		529,861,620				
2005	556,624,494	10.2%	529,921,684	0.0%			
2006	528,257,058	-5.1%	534,003,085	0.8%			
2007	545,471,574	3.3%	539,823,331	1.1%			
2008	535,976,112	-1.7%	544,155,969	0.8%			
2009	523,950,900	-2.2%	536,990,417	-1.3%			
2010	556,896,336	6.3%	543,050,505	1.1%			
2011	551,353,006	-1.0%	546,837,854	0.7%			
2012	551,839,571	0.1%	552,064,145	1.0%			
2013F			553,523,828	0.3%			
2014F			556,904,597	0.6%			
Year	Actual GS<50 kWh	%chg	Weather Normal	%chg			
2004	159,898,814		163,695,254				
2005	165,624,026	3.6%	163,787,570	0.1%			
2006	164,584,172	-0.6%	163,315,281	-0.3%			
2007	177,274,923	7.7%	174,268,015	6.7%			
2008	173,814,745	-2.0%	174,307,145	0.0%			
2009	172,363,092	-0.8%	173,795,726	-0.3%			
2010	172,200,325	-0.1%	174,251,015	0.3%			
2011	174,484,065	1.3%	174,045,762	-0.1%			
2012	174,704,767	0.1%	174,672,454	0.4%			
2013F			173,805,678	-0.5%			
2014F			174,117,497	0.2%			
Year	Actual GS>50 kWh	%chg	Weather Normal	%chg			
2004	961,376,211		963,616,191				
2005	995,372,696	3.5%	964,133,957	0.1%			
2006	964,783,883	-3.1%	961,362,029	-0.3%			
2007	969,279,393	0.5%	963,508,508	0.2%			
2008	933,504,991	-3.7%	948,052,405	-1.6%			
2009	879,095,420	-5.8%	897,897,362	-5.3%			
2010	906,197,008	3.1%	900,569,510	0.3%			
2011	908,229,110	0.2%	899,364,853	-0.1%			
2012	903,337,846	-0.5%	903,067,037	0.4%			



2013F		897,955,770	-0.6%
2014F		899,785,875	0.2%

The following table summarizes the kW sales for the GS>50 kW class. Normalized kW values are calculated based on the annual ratio of class kW to class kWh. Forecast kW is based on the class kW to class kWh ratio in 2012.

Table 10 – GS>50 Class kW (Actual, Normalized, and Forecast), BHI

Year	Actual kW	Class kW/kWh ratio	Normalized kW
2004	2,413,356	0.0025103	2,418,979
2005	2,513,123	0.0025248	2,434,251
2006	2,491,547	0.0025825	2,482,710
2007	2,492,678	0.0025717	2,477,837
2008	2,452,002	0.0026267	2,490,213
2009	2,353,210	0.0026769	2,403,540
2010	2,403,006	0.0026517	2,388,083
2011	2,396,756	0.0026389	2,373,364
2012	2,423,043	0.0026823	2,422,317
2013F		0.0026823	2,408,607
2014F		0.0026823	2,413,515

STREET LIGHTING AND UNMETERED SCATTERED LOAD (USL)

Class consumption for street lighting and USL classes is based on average annual customer connection growth. No change in customer attachments from 2011 or 2012 is forecast for customer attachments in the USL class. For street lights, the customer attachments are forecast to grow at 1.4% per annum, which is the average annual compound (geometric) growth rate in attachments from 2009 to 2012. The following table displays street light and USL customer attachments since 2007 and the forecast attachments for 2013 and 2014.

Date	Street	%chg	USL	%chg
2007	14,210		592	
2008	14,381	1.2%	599	1.3%
2009	14,457	0.5%	587	-2.0%
2010	14,652	1.3%	604	2.8%
2011	15,024	2.5%	604	0.0%
2012	15,083	0.4%	605	0.1%
2013	15,297	1.4%	605	0.0%
2014	15,515	1.4%	605	0.0%

Table 11 – Street Light and USL Customer Connections, BHI

Kilowatt-hour use per customer connection per year is displayed below.



Table 12 – Street Light and USL kWh Use Per Customer Connection

Date	Street	%chg	USL	%chg
2007	643		6,853	
2008	642	-0.1%	6,692	-2.3%
2009	650	1.2%	5,941	-11.2%
2010	646	-0.5%	5,819	-2.0%
2011	655	1.4%	5,460	-6.2%
2012	654	-0.2%	5,548	1.6%

Historical consumption and the resulting kWh forecast are shown below.

Table 13: Street light and USL kWh							
Street	%chg	USL	%chg				
9,134,108		4,055,405					
9,234,332	1.1%	4,010,905	-1.1%				
9,391,179	1.7%	3,487,625	-13.0%				
9,467,387	0.8%	3,512,551	0.7%				
9,847,280	4.0%	3,296,779	-6.1%				
9,866,380	0.2%	3,353,868	1.7%				
10,006,706	1.4%	3,353,868	0.0%				
10,149,029	1.4%	3,353,868	0.0%				
	Table 13: Street 9,134,108 9,234,332 9,391,179 9,467,387 9,847,280 9,866,380 10,006,706 10,149,029	Table 13: Street light and U Street %chg 9,134,108 9,234,332 9,391,179 1.7% 9,467,387 0.8% 9,847,280 4.0% 9,866,380 0.2% 10,006,706 1.4% 10,149,029 1.4%	Table 13: Street light and USL kWhStreet%chgUSL9,134,1084,055,4059,234,3321.1%4,010,9059,391,1791.7%3,487,6259,467,3870.8%3,512,5519,847,2804.0%3,296,7799,866,3800.2%3,353,86810,006,7061.4%3,353,86810,149,0291.4%3,353,868				

Historical and forecast Street Lighting kW is displayed in the table below. The forecast kW is derived by multiplying the forecast kWh by the 2012 kW/kWh ratio.

Table 14: Street Light kW					
Date	Street	%chg	kW/kWh		
2007	25,472		0.00279		
2008	25,767	1.2%	0.00279		
2009	25,861	0.4%	0.00275		
2010	26,416	2.1%	0.00279		
2011	27,334	3.5%	0.00278		
2012	27,457	0.4%	0.00278		
2013	27,848	1.4%	0.00278		
2014	28,244	1.4%	0.00278		

CUSTOMER CONNECTIONS

Table 15 summarizes historical and forecast annual average customer counts. For the Residential, GS<50, GS>50 and Street Light classes, customer connections are forecast to change on an annual basis equal to the compounded (geometric mean) average annual growth over the 3 years from 2009 to 2012 (2010, 2011, 2012). There is no change anticipated for the USL customer class.





Table 15 – Historical and Forecast Average Annual Customer Connections										
Year	Residential	%	GS<50	%	GS>50	%	Street	%	USL	%
2007	55,412		4,772		992		14,210		592	
2008	56,338	1.7%	4,826	1.1%	1,018	2.7%	14,381	1.2%	599	1.3%
2009	57,218	1.6%	4,942	2.4%	976	-4.2%	14,457	0.5%	587	-2.0%
2010	57,917	1.2%	4,988	0.9%	996	2.0%	14,652	1.3%	604	2.8%
2011	58,488	1.0%	5,091	2.1%	987	-0.9%	15,024	2.5%	604	0.0%
2012	59,068	1.0%	5,138	0.9%	998	1.2%	15,083	0.4%	605	0.1%
2013	59,698	1.1%	5,205	1.3%	1,006	0.8%	15,297	1.4%	605	0.0%
2014	60,335	1.1%	5,272	1.3%	1,014	0.8%	15,515	1.4%	605	0.0%

2.5 AVERAGE USE

The following table displays the calculated average use per customer, by class, for actual and normalized and forecast (note: Street Lighting and USL classes are not weather normalized).

Table 16 – kWh Use Per Customer

Actual

Year	Residential	GS<50	GS>50	Street	USL
2005	10,415	37,596	932 <i>,</i> 579	647	6,642
2006	9,667	36,382	896,987	643	6,760
2007	9,844	37,151	977,178	643	6,853
2008	9,514	36,018	916,699	642	6,692
2009	9,157	34,877	900,866	650	5,941
2010	9,615	34,521	910,293	646	5,819
2011	9,427	34,276	920,269	655	5,460
2012	9,342	34,004	904,846	654	5,548
2013					
2014					

Normalized & Forecast

Year	Residential	GS<50	GS>50	Street	USL
2005	9,916	37,179	903,311	647	6,642
2006	9,772	36,102	893,805	643	6,760
2007	9,742	36,521	971,360	643	6,853
2008	9,659	36,120	930,984	642	6,692
2009	9,385	35,166	920,134	650	5,941
2010	9,376	34,932	904,640	646	5,819
2011	9,350	34,190	911,288	655	5,460
2012	9,346	33,998	904,575	654	5,548
2013	9,272	33,394	892,646	654	5,548
2014	9,230	33,024	887,695	654	5,548



2.6 FORECAST SUMMARY

The following table summarizes the load forecast for BHI.

	Table 16 – Burlington Hydro Forecast Summary								
Residential Class GS<50 kW Class									
Year	Actual kWh	%	Normalized kWh	%	Actual kWh	%	Normalized kWh	%	
2010	556,896,336	6.3%	543,050,505	1.1%	172,200,325	-0.1%	174,251,015	0.3%	
2011	551,353,006	-1.0%	546,837,854	0.7%	174,484,065	1.3%	174,045,762	-0.1%	
2012	551,839,571	0.1%	552,064,145	1.0%	174,704,767	0.1%	174,672,454	0.4%	
2013			553,523,828	0.3%			173,805,678	-0.5%	
2014			556,904,597	0.6%			174,117,497	0.2%	

	GS>50 kW Class				<u>GS>50 kW C</u>	lass		
Year	Actual kWh	%	Normalized kWh	%	Actual kW	%	Normalized kW	%
2010	906,197,008	3.1%	900,569,510	0.3%	2,403,006	2.1%	2,388,083	-0.6%
2011	908,229,110	0.2%	899,364,853	-0.1%	2,396,756	-0.3%	2,373,364	-0.6%
2012	903,337,846	-0.5%	903,067,037	0.4%	2,423,043	1.1%	2,422,317	2.1%
2013			897,955,770	-0.6%			2,408,607	-0.6%
2014			899,785,875	0.2%			2,413,515	0.2%
	<u>Streetlight</u>		<u>Streetlight</u>				<u>USL</u>	
Year	kWh	%	kW	%			kWh	%
2010	9,467,387	0.8%	26,416	2.1%			3,512,551	0.7%
2011	9,847,280	4.0%	27,334	3.5%			3,296,779	-6.1%
2012	9,866,380	0.2%	27,457	0.4%			3,353,868	1.7%
2013	10,006,706	1.4%	27,848	1.4%			3,353,868	0.0%
2014	10,149,029	1.4%	28,244	1.4%			3,353,868	0.0%
	Total Retail							
Year	Actual kWh	%	Norm/Forecast kWh	%				
2010	1,648,273,607	3.8%	1,630,850,967	0.6%				
2011	1,647,210,240	-0.1%	1,633,392,528	0.2%				
2012	1,643,102,432	-0.2%	1,643,023,884	0.6%				
2013			1,638,645,849	-0.3%				
2014			1,644,310,865	0.3%				

APPROACH TO CONSERVATION AND DEMAND MANAGEMENT

3 Consistent with the Board's CDM Guideline EB-2012-0003, Burlington Hydro proposes 4 to integrate a manual adjustment into its 2014 load forecast that takes into account the 5 measured CDM results from 2011 and 2012 CDM programs as reported by the OPA 6 Annual CDM reports. For purposes of this application Burlington Hydro has calculated 7 the 2012 CDM results using the OPA Annual CDM Report 2012 – Draft Verified Results 8 issued August 1, 2013. The OPA results are taken into account for determining the 9 amount of CDM reductions to be achieved in 2013 and 2014 in order to achieve the four-10 year (2011-2014) targets for kWh and kW reductions. The manual adjustment for the 11 2014 Load Forecast is the amount manually subtracted from the load forecast derived 12 from the base forecast from historical data, and is intended to reflect the further CDM 13 savings that the distributor needs to achieve assuming that they meet 100% of the 2011-14 2014 CDM target that is a condition of their license.

15

1

2

Burlington Hydro's license condition CDM targets and the LRAMVA balances are based on the reported OPA results, which are annualized. It is recognized that the CDM programs in a year are not in effect for the full year, although persistence of previous year's programs will be. Therefore, the actual impact on the load forecast for the first year of the program should not be the full annualized amount. For this reason, the amount that will be used for the LRAMVA will be related to, but not necessarily equal to, the CDM adjustment for the load forecast.

23

Further, the actual results for 2011 and 2012 historical years include the impacts of 2011 and 2012 CDM programs. The CDM adjustment to the load forecast should also take into account the historical CDM results factored into the base load forecast before the CDM adjustment, in order to avoid double counting of the impacts. For purposes of this application Burlington Hydro proposes to use the following weight factors for determination of the manual CDM adjustment to its 2014 load forecast.

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Weight Factor for Inclusion in CDM Adjustment to 2014 Load Forecast								
	2011	2012	2013	2014				
Weight Factor for each year's CDM program impact on 2014 load forecast	0	0.5	1	0.5				
Default Value selection rationale.	Persistence of 2011 CDM programs for the full year of 2012 means that all of 2011 CDM impact is assumed to be in the base forecast before the CDM Adjustment	50% of 2012 CDM impact is assumed reflected in base forecast based on 1/2 year rule.	Full year impact of 2013 CDM programs on adjustment for 2014 load forecast	Only 50% of 2014 CDM impact is used based on a half year rule				

1 2

3 Burlington Hydro's CDM targets are expected to be "net", i.e. excluding the results of 4 "free riders". Burlington Hydro would suggest that the OPA reported "net" CDM result 5 understate the real decline in demand. Normally Burlington Hydro would have argued 6 that the manual CDM adjustment be adjusted on a gross basis. However Burlington 7 Hydro notes that the Board determined that the "net" number should be used in its 8 Decision and Order with respect to Centre Wellington Hydro Ltd.'s 2013 Cost of Service 9 rates (EB-2012-0113). Burlington Hydro has therefore elected to calculate its adjustment 10 on the "net" basis.

11

Burlington Hydro also notes that it has developed its load forecast on a billed basis.
Burlington Hydro therefore has excluded application of the loss factor in the calculation
of the CDM manual adjustment.

15

For the purpose of calculating the kW manual CDM adjustment Burlington Hydro proposes to use the proportional amount of unadjusted normalized load forecasted rate class kW to unadjusted normalized load forecasted rate class kWh and apply this factor to the rate class CDM adjustment amount.

20

For the purpose of calculating the LRAMVA kW Burlington Hydro would have normally applied the same formula used for the CDM manual adjustment. However, this

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1 calculation results in a kW value well in excess of the license kW target amount of

2 21,950 kW. For this reason Burlington Hydro would propose that the LRAMVA kW

- 3 threshold be held to the license kW target amount of 21,950 kW.
- 4

5 Table one below is Burlington Hydro's proposed manual CDM adjustment to the load 6 forecast by rate class.

7

Adjustment To Load Forecast Burlington Hydro Inc.

	Weather Normalized		CDM Load	2014 CDM
Retail	2014F		Forecast	Adjusted Load
kWh	(Elenchus)		Adjustment	Forecast
	А	C = A / B	E = D * C	F = A - E
Residential (kWh)	556,904,597	34%	6,147,280	550,757,317
GS<50 (kWh)	174,117,497	11%	1,921,961	172,195,536
GS>50 (kW)	899,785,875	55%	9,932,107	889,853,768
Street Lights (kW)	10,149,029	1%	112,028	10,037,001
USL (kWh)	3,353,868	0%	37,021	3,316,847
Total Customer (kWh)	1,644,310,866	100%	18,150,397	1,626,160,469
	В		D	
	Weather Normalized		CDM Load	2014 CDM
	2014F		Forecast	Adjusted Load
kW	(Elenchus)		Adjustment *	Forecast
	G	I = G / H	J = G / A * E	K = G - J
Residential (kWh)	-	0%		-
GS<50 (kWh)	-	0%		-
GS>50 (kW)	2,413,515	99%	26,641	2,386,874
Street Lights (kW)	28,244	1%	312	27,932
USL (kWh)	-	0%		-
Total Customer (kWh)	2,441,759	100%	26,953	2,414,806
	Н			

8

* Note that CDM LF kW is the proportional LF kW over LF kWh times kWH CDM LF adjustment.

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1 Table two below is Burlington Hydro's proposed LRAMVA by rate class.

LRAMVA Allocation Burlington Hydro Inc.

kWh	Weather Normalized 2014F LRAMVA (kWh (Elenchus)			
	Α	C = A / B	E = D * C	
Residential (kWh)	556,904,597	34%	11,575,328	
GS<50 (kWh)	174,117,497	11%	3,619,053	
GS>50 (kW)	899,785,875	55%	18,702,156	
Street Lights (kW)	10,149,029	1%	210,949	
USL (kWh)	3,353,868	0%	69,711	
Total Customer (kWh)	1,644,310,866	100%	34,177,196	
	В		D	

	Weather Normalized			
	2014F		Calculated (kW)	LRAMVA (kW) *
kW	(Elenchus)			
	F	H = F / G	I = F / A * E	K = J * H
Residential (kWh)	-	0%		
GS<50 (kWh)	-	0%		
GS>50 (kW)	2,413,515	99%	50,165	21,696
Street Lights (kW)	28,244	1%	587	254
USL (kWh)	-	0%		
Total Customer (kWh)	2,441,759	100%	50,752	21,950
	G			J

- 2 * As Calculated (kW) exceeds the 2014 kW target therefore LRAMVA is proposed to be the 2014 Target
- 3

4 Also included in this submission is the OEB Appendix 2-I LF_CDM_WF.

5

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Attachment 1 (of 1):

Appendix 2-I: Load Forecast CDM Adjustment Work Form

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Appendix 2-I Load Forecast CDM Adjustment Work Form (2014)

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 B29 to E29. 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 C30 to E30. These results are taken from the final 2012 CDM Report issued by the OPA for that distributor in the fall of 2013. Until that report is issued, the distributor should use the results from the preliminary 2012 CDM Report issued in the spring of 2013.

Based on these inputs, the residual kWh to achieve the 4 year CDM target is allocated so that there is an equal incremental increase in each of the years 2012, 2013 and 2014._x000D_

4 Year (2011-2014)	kWh Target:				
82,370,000					
	2011	2012	2013	2014	Total
2011 CDM Programs	8.92%	8.86%	8.86%	8.79%	35.44%
2012 CDM Programs		10.27%	10.22%	9.97%	30.46%
2013 CDM Programs			11.37%	11.37%	22.73%
2014 CDM Programs				11.37%	11.37%
Total in Year	8.92%	19.14%	30.45%	41.49%	100.00%
kWh					
2011 CDM Programs					
	7,350,138.00	7,301,303.0	7,301,303.0	7,238,674.0	29,191,418.
		0	0	0	00
2012 CDM Programs					
		8,462,248.0	8,415,539.0	8,213,974.0	25,091,761.
		0	0	0	00
2013 CDM Programs					
			9,362,273.6	9,362,273.6	18,724,547.
			7	7	33
2014 CDM Programs					
				9,362,273.6	9,362,273.6
				7	7
Total in Year					
	7,350,138.00	15,763,551.	25,079,115.	34,177,195.	82,370,000.

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From each of the 2006-2010 CDM Final Report, 2011 CDM Final Report, and the 2012 CDM Final Report, 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".

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 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.

Net-to-Gross Conversion								
Is CDM adjustment being done on a "I	Is CDM adjustment being done on a "net" or "gross" basis?							
	Difference	"Net-to- Gross" Conversion Factor						
Persistence of Historical CDM programs to 2014	kWh	kWh	kWh	('g')				
2006-2010 CDM programs	115,814,404	67,810,298						
2011 CDM program	43,297,487	26,772,373						
2012 CDM program	53,532,925	33,504,769						
2006 to 2011 OPA CDM programs: Persistence to 2013	212644816	128087440	84557376	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				
Forecast				
2011	2012	2013	2014	-

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Weight Factor for each year's CDM program impact on 2014 load forecast	0	0.5	1	0.5	Utility can select "0", "0.5", or "1" from drop- down list
Default Value selection rationale.	Persistence of 2011 CDM programs for the full year of 2012 means that all of 2011 CDM impact is assumed to be in the base forecast before the CDM Adjustment	50% of 2012 CDM impact is assumed reflected in base forecast based on 1/2 year rule.	Full year impact of 2013 CDM programs on adjustment for 2014 load forecast	Only 50% of 20 impact is used half year rule	014 CDM I based on a

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 fouryear 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 2014 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, for both the LRAMVA and for the load forecast adjustment.

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	2011	2012	2013	2014	Total for 2014
	kWh				
Amount used for					
CDM threshold for	7,238,674.00	8,213,974.0	9,362,273.6	9,362,273.6	34,177,195.
LRAMVA (2014)		0	7	7	33
for 2014 Load	_	4 106 987 00	9 362 273 67	4 681 136 83	18 150 397 5
Forecast (hilled		1,100,507100	3,302,273107	1,001,100.00	0
basis)					
basisy					
Proposed Loss	3.73%	Forma	t: X.XX%		
Factor (TLF)					
Manual Adjustment					
for 2014 Load	-	4,260,177.62	9,711,486.47	4,855,743.24	18,827,407.3
Forecast (system					3
purchased basis)					
Manual adjustment u	ses "gross" versu	s "net" (i.e. nun	nbers multiplied	l by (1 + g). The	Weight
factor is also used cald	culate the impact	of each year's	program on the	e CDIVI adjustme	nt to the
2014 Ioaa Jorecast.					

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Exhibit 3: Revenue

Tab 2 (of 3): Accuracy of Load Forecast and Variance Analysis

VARIANCE ALALYSIS OF LOAD FORECAST

2 Burlington Hydro's Residential customer class has shown slow, stable growth in 3 customers. This is attributed to the City of Burlington being fully developed or, stated 4 differently, lacking green field development opportunities. Going forward, increases in 5 Burlington's Residential customers will be due to redevelopment that achieves increased 6 population densities; specifically, the construction of new condominiums. The number of 7 customers for GS<50 kW has remained steady since 2010. Burlington Hydro anticipates 8 a modest increase of 67 connections from 2012 to 2013 and an additional 67 9 connections in 2014.

10

Similarly, the customer count for the GS>50 kW class has also seen a steady increase
over the past years and Burlington Hydro anticipates serving 8 new GS>50 kW
customers annually in 2012, 2013 and 2014.

14

Customer and Connections of both Burlington Hydro's Street Lighting and Unmetered
Scattered Load customer classes have also been stable historically and modest
increases are projected for 2013 and 2014.

18

Customer Class Name	2010 Board Appr	2010 Actual	2011 Actual	2012 Actual	Bridge Year 2013 Normalized	Test Year 2014 Normalized
Residential	57,218	57,917	58,488	59,068	59,698	60,335
General Service < 50 kW	4,942	4,988	5,091	5,138	5,205	5,272
General Service > 50 to 4999 kW	976	996	987	998	1,006	1,014
Unmetered Scattered Load	602	604	604	605	605	605
Street Lighting	14,457	14,652	15,024	15,083	15,297	15,515
TOTAL	77,619	78,579	79,615	80,312	81,231	82,161

 Table 3-6 – Customer and Connection Count

4 Table 2 shows that Burlington Hydro's energy deliveries to each of its metered customer

5 classes have shown little variability since 2010. Similarly, it shows that metered demand

6 of its General Service >50 kW customer class has also shown little variability since 2010.

7 Burlington Hydro attributes these outcomes to its provision of effective CDM programs in

8 the licensed service area. Burlington Hydro does not foresee any changes to its
9 customer class composition. Burlington Hydro confirms that its Load Forecast provides

10 the average number of customers for the 2014 Test Year.

11

²

Table 3-7 – LOad Forecast variance Analysis

Customers or Connections											
Customer Class Name	2010 Board Appr	2010 Actual	Variance 2010 BA – 2010 Actuals	2011 Actual	Variance 2011 – 2010 Actuals	2012 Actual	Variance 2012 – 2011 Actuals	Bridge Year 2013 Normalized	Variance 2013 – 2012 Actuals	Test Year 2014 Normalized	Variance 2014 – 2013 Bridge
Residential	57,218	57,917	699	58,488	571	59,068	580	59,698	630	60,335	637
General Service < 50 kW	4,942	4,988	46	5,091	103	5,138	47	5,205	67	5,272	67
General Service > 50 to 4999 kW	976	996	20	987	-9	998	11	1,006	8	1,014	8
Unmetered Scattered Load	26	26	0	25	-1	25	0	25	0	25	0
Street Lighting	14,457	14,652	195	15,024	372	15,083	59	15,297	214	15,515	218
TOTAL	77,619	78,579	960	79,615	1,036	80,312	697	81,231	919	82,161	930
Metered kWh (CDM Adjusted)											
Customer Class Name	2010 Board Appr	2010 Actual	Variance 2010 BA – 2010 Actuals	2011 Actual	Variance 2011 – 2010 Actuals	2012 Actual	Variance 2012 – 2011 Actuals	Bridge Year 2013 Normalized	Variance 2013 – 2012 Actuals	Test Year 2014 Normalized	Variance 2014 – 2013 Bridge
Residential	523,950,900	556,896,336	32,945,436	551,353,006	- 5,543,330	551,839,571	486,565	553,523,828	1,684,257	546,525,120	-6,998,708
General Service < 50 kW	172,363,092	172,200,325	-162,767	174,484,065	2,283,740	174,704,767	220,702	173,805,678	-899,089	170,872,330	-2,933,348
General Service > 50 to 4999 kW	879,095,420	906,197,008	27,101,588	908,229,110	2,032,102	903,337,846	- 4,891,264	897,955,770	- 5,382,076	883,015,845	- 14,939,925
Unmetered Scattered Load	3,487,625	3,512,551	24,926	3,296,779	-215,772	3,353,868	57,089	3,353,868	0	3,291,359	-62,509
Street Lighting	9,391,179	9,467,387	76,208	9,847,280	379,893	9,866,380	19,100	10,006,706	140,326	9,959,873	-46,833
TOTAL	1,588,288,216	1,648,273,607	59,985,391	1,647,210,240	- 1,063,367	1,643,102,432	- 4,107,808	1,638,645,850	- 4,456,582	1,613,664,527	- 24,981,323

kW CDM Adjusted											
Customer Class Name	2010 Board Appr	2010 Actual	Variance 2010 BA – 2010 Actuals	2011 Actual	Variance 2011 – 2010 Actuals	2012 Actual	Variance 2012 – 2011 Actuals	Bridge Year 2013 Normalized	Variance 2013 – 2012 Actuals	Test Year 2014 Normalized	Variance 2014 – 2013 Bridge
Residential			0		0		0		0		0
General Service < 50 kW			0		0		0		0		0
General Service > 50 to 4999 kW	2,353,210	2,403,006	49,796	2,396,756	2,346,960	2,423,043	76,083	2,408,607	2,332,524	2,368,532	36,008
Unmetered Scattered Load			0		0		0		0		0
Street Lighting	25,861	26,416	555	27,334	26,779	27,457	678	27,848	27,170	27,718	548
TOTAL	2,379,071	2,429,422	50,351	2,424,090	2,373,739	2,450,500	76,761	2,436,455	2,359,694	2,396,250	36,556

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1 2010 Actual vs. 2010 Board Approved

2 Burlington Hydro experienced a variance between the 2010 Board Approved and the 3 2010 Actual load forecast by an increase of approximately 60 GWhs or 1.25%. 4 Approximately 33 GWhs of this increase can be attributed to the Residential customer 5 class. In addition to the increased consumption, the number of customers in the 2010 6 Board Approved forecast for the Residential customer class was forecast at 57,218; 7 however, the actual average number of customers in 2010 was 57,917, an increase of 8 1.2%. For the General Service less than 50 customer class, there was a decrease of 9 Board Approved to Actual of approximately 163 MWhs. While there was an increase in 10 the number of Actual customers in 2010 vs. Board Approved (4.942 vs. 4.988) Growth in 11 the residential class often directly correlates to the population growth in the service area. 12 The state of the local economy is also an indicator of expected customer growth. As the 13 economy has improved, the additions to the residential rate class are leveling out once 14 at 1.1% per year. For the General Service greater than 50 customer class, there was an 15 increase from Board Approved to Actual of approximately 27 MWhs and an increase in 16 the number of customers (976 Board Approved vs. 996 Actual).

17

18 2011 Actual vs. 2010 Actual

19 The overall decrease in wholesale energy was approximately 1 MWhs from 2010 to 20 2011. While the number of residential customers increased by approximately 1.0%, the 21 non-weather normalized consumption for this class decreased by approximately 1.0%. 22 For the General Service less than 50 kW customer class, there was an increase in both 23 customer counts and metered energy deliveries. For the General Service greater than 24 50 kW customer class, there was a 1.0% reduction in the number of customers, a 0.2% 25 increase in metered energy deliveries and a reduction in monthly metered demand of 26 approximately 500 kW.

27

28 2012 Actual vs. 2011 Actual

The overall decrease in wholesale kWhs was approximately 4.1 GWhs or 0.25% from 2011 to 2012. There was an increase in Residential customer numbers of 1.0% but only a 0.1% increase in energy consumption. For the General Service less than 50 kW customer class, there was a 0.9% increase in customer counts (addition of 47), and a

- 1 0.1% increase in year over year consumption. While the General Service greater than
- 2 50 kW customer class increased by 11 customers and demand increased by 26,000 kW,
- 3 consumption decreased by 5GWh from 2011 to 2012.
- 4

5 2013 Bridge Year vs. 2012 Actual; and 2014 Test Year vs. 2013 Bridge Year

6 In its 2013 Bridge Year, Burlington Hydro projects that an overall decrease in wholesale

7 kWh's of 4.5 GWhs to approximately 1,639 GWhs or a decrease of 0.3% over 2012

8 Actuals. The forecast wholesale purchases for the 2014 Test Year of 1,614 GWhs are a

- 9 1.5% lower than the 2013 Bridge Year. Street Lights have exhibited steady growth in
- 10 number, demand and energy consumption while USL have been relatively stable.

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Exhibit 3: Revenue

Tab 3 (of 3): Other Revenue

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1

OVERVIEW OF OTHER REVENUE

Other distribution revenue is primarily comprised of charges to retailers for distributor
and retailer consolidated billing, pole rental, specific customer services charges and
other miscellaneous revenues. No new specific service charges are being proposed.

5

6 Appendix 2-H: Other Operating Revenue presented at attachment 1 to this schedule,

7 shows the trend of Other Revenue by account, which includes Specific Service Charges,

8 Late Payment Charges, Other Operating Revenues and Other Income or Deductions.

9

The overall "Other Revenues" have seen both upwards and downwards fluctuations
between 2010 and 2014. Year over year variance analysis are presented at Exhibit 3,
Tab 3 Schedule 2.

13

14 Specific Service Charges

15

16 A Specific Service Charge is an approved fixed rate charged to a customer for a specific 17 activity or service, or as a penalty. Activities include services that are only available from, 18 or under the control of, the distributor. While the costs of providing the standard level of 19 service are recovered in the regular distribution rates, distributors rely on Specific 20 Service Charges to recover the costs incurred to perform activities that are 'over and 21 above' a distributor's standard level of service. The proposed list (which includes no 22 changes from the current approved charges) of specific service charges is presented 23 below.

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1

2

3

Table 3-8 – Current and Proposed Specific Service Charge

	Current	Proposed
	Rates	Rates
Service	Rate	Rate
Arrears certificate	\$15.00	\$15.00
Credit Reference/credit check (plus credit agency costs)	\$15.00	\$15.00
Statement of Account	\$15.00	\$15.00
Account set up charge/change of occupancy charge	\$30.00	\$30.00
Returned cheque (plus bank charges)	\$15.00	\$15.00
Late Payment - per month	1.50%	1.50%
Late Payment – per annum	19.56%	19.56%
Collection of account charge – no disconnection	\$30.00	\$30.00
Disconnect/Reconnect Charge – At Meter – During Regular	\$65.00	\$65.00
Hours	φ05.00	φ03.00
Disconnect/Reconnect Charge – At Meter – After Hours	\$185.00	\$185.00

4

Burlington Hydro expects to recover \$1.7M of revenue through the application of Specific 5 6 Service Charges in the 2014 Test Year. This is approximately \$81k greater than the 7 amount projected to be recovered in the 2013 Bridge Year; this variance is a volumetric 8 variance as none of Burlington Hydro's Specific Service Charges are proposed to change in 2014. Schedule 2 provides additional details on projected service charges. 9 10 Schedule 3 describes the significant variances in other revenues. Schedule 4 presents 11 the revenue offsets which are applied to the base revenue requirement for the 2014 test 12 year.

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Attachment 1 (of 1):

OEB Appendix 2-F Other Operating Revenue

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Appendix 2-H Other Operating Revenue

USoA#	USoA Description	2010 Actual	2011 Actual	2012 Actual	Bridge Year	Test Year
					2013	2014
	Reporting Basis	CGAAP	CGAAP	CGAAP	NewCGAAP	NewCGAAP
4235	Specific Service Charges	\$821,164	\$848,889	\$853,860	\$737,384	\$817,981
4225	Late Payment Charges	\$202,148	\$249,986	\$248,090	\$242,000	\$241,000
4082	Retail Services Revenues - ODR	\$50,129	\$46,287	\$40,278	\$40,000	\$40,000
4220	Other Electric Revenues - ODR	\$101,942	\$56,903	\$58,494	\$108,506	\$58,025
4080	Admin Charge - ODR	\$174,033	\$178,619	\$184,071	\$186,177	\$188,308
4210	Rent from electric property - ODR	\$319,465	\$325,111	\$330,676	\$337,400	\$337,400
4084	Service Transaction Requests (STR) Revenues - ODR	\$1,919	\$1,318	\$1,274	\$1,300	\$1,300
4390	Miscellaneous Non-Operating Income - OIE	\$78,840	\$2,873	\$351,221	-\$263,000	\$27,000
4305	Regulatory Debits - OIE				-\$2,884,325	
4405	Interest and Dividend Income - OIE	\$206,876	\$466,734	\$232,928	\$205,000	\$227,000
Specific S	ervice Charges	\$821,164	\$848,889	\$853,860	\$737,384	\$817,981
Late Payment Charges		\$202,148	\$249,986	\$248,090	\$242,000	\$241,000
Other Operating Revenues		\$647,489	\$608,237	\$614,792	\$673,383	\$625,033
Other Income or Deductions		\$285,716	\$469,607	\$584,149	-\$2,942,325	\$254,000
Total		\$1,956,517	\$2,176,720	\$2,300,892	-\$1,289,558	\$1,938,014

Note: Bridge year balance includes the effect of policy changes mandated by the OEB and as reflected in the designated account of 1576. Had there been no policy change the amount would have been 1,594,767

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OTHER REVENUE VARIANCE ANALYSIS

- 2 The table below depicts the year over year variances in Other Revenues 2010 to 2013
- 3 and 2014.

1

USoA #	USoA Description	2010 Actual	2011 Actual	Var
				%
Specific Se	rvice Charges	\$821,164	\$848,889	3%
Late Paym	ent Charges	\$202,148	\$249,986	24%
Other Oper	ating Revenues	\$647,489	\$608,237	-6%
Other Incor	ne or Deductions	\$285,716	\$469,607	64%
Total		\$1,956,517	\$2,176,720	11%

Table 3.8: Other Revenue Variance Analysis

USoA#	USoA Description	2011 Actual	2012 Actual	Var
				%
Specific Se	rvice Charges	\$848,889	\$853,860	1%
Late Payment Charges		\$249,986	\$248,090	-1%
Other Oper	ating Revenues	\$608,237	\$614,792	1%
Other Income or Deductions		\$469,607	\$584,149	24%
Total		\$2,176,720	\$2.300.892	6%

USoA #	USoA Description	2012 Actual	Bridge Year	Var
				%
Specific Service Charges		\$853,860	\$737,384	-14%
Late Payment Charges		\$248,090	\$242,000	-2%
Other Oper	ating Revenues	\$614,792	\$673,383	10%
Other Incor	ne or Deductions	\$584,149	-\$2,884,325*	-604%
Total		\$2,300,892	\$1,289,558	-156%

USoA#	USoA Description	Bridge Year	Test Year	Var
				%
Specific Se	rvice Charges	\$737,384	\$817,981	11%
Late Payment Charges		\$242,000	\$241,000	0%
Other Oper	ating Revenues	\$673,383	\$625,033	-7%
Other Incor	ne or Deductions	-\$2,884,325	\$254,000	-109%
Total		-\$1,289,558	\$1,938,014	-250%

4 *Note: Bridge year balance includes the effect of policy changes mandated by the OEB

5 and as reflected in the designated account of 1576. Had there been no policy change

6 the amount would have been 1,594,767

- 1 Burlington Hydro's other revenues have been stable over the period of 2010 to 2014.
- 2 The slight increase in specific charges reflects the historical growth within the service
- 3 area as well as reflects the downturn in the economy during the earlier years.

4 Specific Service Charges

- Overall, revenues from Specific Service Charges have increased moderately since 2010.
 The Specific Service Charges revenues increased by 3% in 2011 over 2010, increased
 by 1% in 2012 and decreased in by 14% in 2013. Burlington Hydro has forecasted
 normalized amounts of revenues from Specific Service Charges for 2014.
- 9

10 Late Payment Charges

- Late Payment Charge revenues increased by 24% in 2011 from 2010 during the tail end of the economic slowdown but have remained stable since 2011. Revenues decreased by 1% in 2012 over 2011, and by 2% in 2013. Burlington Hydro has forecasted normalized amounts of Late Payment Charges for 2014.
- 15

16 Other Operating Revenues

Other Operating Revenues have also remained fairly steady since 2010. The Revenues decreased by 6% from 2010 to 2011 largely due to reduced revenues in 4220 – Other Electric Revenues. Revenues increased by 1% in 2012 over 2011, increased again by 10% in 2013. Burlington Hydro has forecasted normalized amounts of Late Payment Charges for 2014. Other Operating Revenues are expected to decrease by 7% in 2014 over 2013.

Table:3-9: Other Income or Deductions

	2010 Actual	2011 Actual	2012 Actual	Bridge Year	Test Year
Reporting Basis	CGAAP	CGAAP	CGAAP	CGAAP	CGAAP
Short-term Investment Interest	\$6,090.00				
Bank Deposit Interest	\$77,608.00	\$204,926.00	\$182,810.00	\$205,000.00	\$239,000.00
Miscellaneous Interest Revenue	\$119,559.00	\$261,808.00	\$50,118.00		
Income Tax Refund	\$3,619.00				
Total	\$206,876.00	\$466,734.00	\$232,928.00	\$205,000.00	\$239,000.00

Account 4405 - Interest and Dividend Income

- 1 Burlington Hydro changed banks in 2011 and received a more favourable rate of interest
- 2 on deposits. This change is projected to continue in 2013 and 2014.
- 3
- Miscellaneous Interest Revenue represents carrying charges which fluctuate depending
 on the account balances. High balance attracted a high carrying charge which can vary
- 6 year over year. Burlington Hydro did not accrue any balances in 2013 and 2014 as the
- 7 projected amounts are considered minimal.