



File Number: EB-2016-0091

Date Filed: August 26, 2016

EXHIBIT 3 - OPERATING REVENUE



File Number: EB-2016-0091

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Exhibit 3

Tab 1 of 3

Load and Revenue Forecasts



1 **LOAD AND REVENUE FORECASTS OVERVIEW**

2 This exhibit provides details of London Hydro’s operating revenue for 2013 Board approved
 3 from last Cost of Service, 2013 Actual, 2014 Actual, 2015 Actual, the 2016 Bridge Year and the
 4 2017 Test Year. The exhibit also provides a variance analysis of distribution throughput
 5 revenue by rate class. Operating revenue is exclusive of revenue from commodity sales.
 6 Distribution throughput revenue is attributable to fixed and variable charges for distribution
 7 services and is exclusive of other revenue. Net distribution throughput revenue is distribution
 8 revenue less transformation ownership allowance. Other revenue includes late payment service
 9 charges, other specific service charges, and other non-throughput related distribution revenue.

10 London Hydro is proposing total operating revenue of \$73,176k for the 2017 Test Year. This is
 11 comprised of net throughput distribution revenue of \$68,212k plus revenue offsets of \$4,964k to
 12 be recovered through other revenue. A breakdown is provided at Exhibit 6 Tab 1 Schedule 1

13 A summary of operating revenue is presented in Table 3.1.1.1 below. The table provides a
 14 comparison of total revenues from the 2013 Board Approved year to the 2017 Test Year.

15 **Table 3.1.1.1 Summary of Operating Revenue**

OEB Category	2013 BA	2013 Actual	2014 Actual	2015 Actual	2016 Bridge Year	2017 Test Year
Distribution services revenue	\$ (64,819,000)	\$ (63,786,086)	\$ (63,355,578)	\$ (64,751,229)	\$ (64,847,765)	\$ (68,212,243)
Revenues from Services - Distribution	\$ (568,000)	\$ (546,070)	\$ (540,473)	\$ (534,668)	\$ (533,000)	\$ (550,900)
Other Operating Revenues	\$ (2,188,000)	\$ (2,755,023)	\$ (3,342,141)	\$ (3,150,162)	\$ (3,516,287)	\$ (3,656,119)
Other Income/Deductions	\$ (347,375)	\$ (916,782)	\$ (1,363,407)	\$ 2,544,125	\$ (580,574)	\$ (595,600)
Investment Income	\$ (116,744)	\$ (286,419)	\$ (250,966)	\$ (332,169)	\$ (208,471)	\$ (161,545)
	\$ (68,039,119)	\$ (68,290,381)	\$ (68,852,563)	\$ (66,224,103)	\$ (69,686,098)	\$ (73,176,406)



1 **LOAD FORECAST**

2 **3.2.1 INTRODUCTION**

3 The purpose of this section is to present the process used by London Hydro to develop its 2016
4 Bridge Year and 2017 Test Year weather-normalized load and customer/connections forecast
5 utilized in the design of the 2017 proposed distribution rates.

6 London Hydro has prepared a Load Forecast Model (the “Model”) consistent with its
7 understanding of the Chapter 2 Filing Requirements for Electricity Distribution Rate Applications
8 – 2016 Edition for 2017 Rate Applications issued on July 14, 2016.

9 **3.2.2 PURCHASED KWH FORECAST**

10 Consistent with the methodology used to prepare the approved load forecast in London Hydro’s
11 2013 Cost of Service Application (EB-2012-0146), London Hydro utilized the multivariate linear
12 regression analysis methodology for this Application. This methodology was chosen (i) for
13 consistency with the London Hydro’s 2013 Cost of Service Application and (ii) for its
14 accessibility and the capability of Microsoft Excel to house the fully functional model. London
15 Hydro believes this approach of conducting a regression analysis on historical electricity
16 purchases and producing an equation that will predict future purchases is appropriate.

17 **HISTORIC PURCHASES**

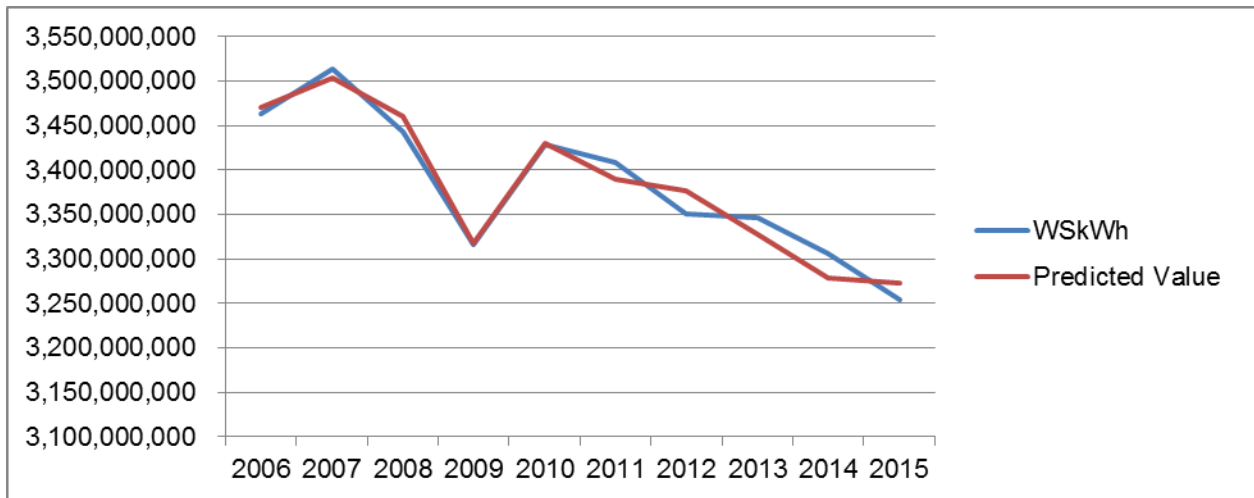
18 Traditionally, kWh purchase data is accumulated by month for 10 historic years for use in the
19 regression analysis. Sources include purchase data from the IESO, Hydro One Networks Inc.
20 (“HONI”), as well as embedded generation data. Accordingly, London Hydro has utilized kWh
21 purchase data, by month, for its service territory for the period of January 2006 to December
22 2015 as part of this regression analysis.

23 As shown in Chart 3-1 below, London Hydro experienced significant load loss between 2008
24 and 2010 as a result of the global recession, and any recovery post-recession has been steadily



1 eroded to below recession levels. The blue line in Chart 3-1 illustrates that since London
2 Hydro's recovery from the recession, the load leveled off and London Hydro is now experiencing
3 a new profile at lower-than-historic levels. Load loss was experienced in London as businesses
4 closed or curtailed production. In 2015, London Hydro further experienced the significant loss of
5 two (2) Large Use customers. One large user has completely closed operations. The other load
6 decline has resulted in it being transferred to the GS>50 kW class.

7 **CHART 3-1: London Hydro Historical and Predicted Purchases**

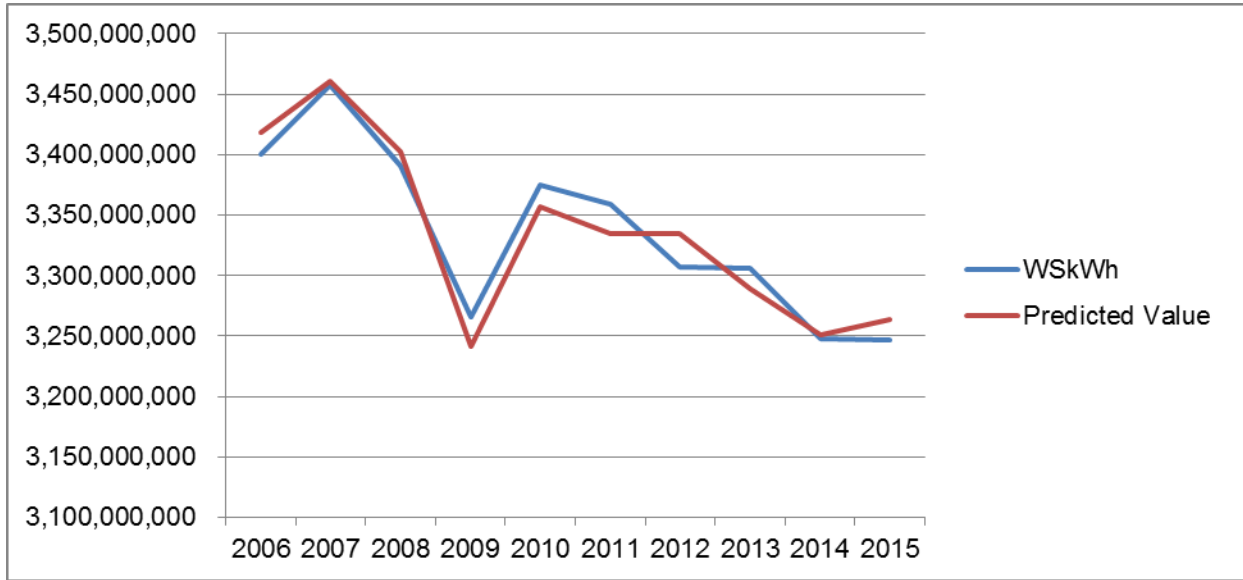


8
9 Prior to any modeling, London Hydro included an adjustment to the current profile to recognize
10 that the one large use load no longer exists. Specifically, the adjustment pushes the historic
11 purchased kWh downward, so the forecast model more accurately reflects customer
12 consumption post global recession. The adjusted historical purchases are reflected in the blue
13 line in Chart 3-2 below.



1

CHART 3-2: London Hydro Adjusted Historical and Predicted Purchases



2

3 **MODELLED VARIABLES**

4 Variables included in the model are designed to provide a broad coverage of the drivers of
5 electricity use by our customers. London Hydro utilized the following variables:

- 6 • Weather Conditions
- 7 • Days in the Month
- 8 • Peak Days
- 9 • Time in Years and
- 10 • London Region Population

11 ***Weather Conditions***

12 Weather impacts on load are apparent in both the winter heating season and in the summer
13 cooling season. For that reason, London Hydro has included both Heating Degree Days (i.e., a
14 measure of coldness in the winter) and Cooling Degree Days (i.e., a measure of summer heat)
15 as variables in the regression analysis.



1 Weather data is measured in degrees Celsius by the London CS weather station as operated by
2 Environment Canada. The 10 year average monthly values were used in generating forecast
3 values.

4 *London Region Population*

5 Statistics Canada routinely collects historical population data for the London area, CANSIM
6 Table 051-0059. The “2016 Ontario Economic Update: London Economic Region” by the Credit
7 Unions of Ontario and the Ontario Chamber of Commerce suggest the labour force growth will
8 be aided by a rising participation rate and is forecasted at 0.7 percent in 2016 and 0.8 percent in
9 2017.

10 **REJECTED VARIABLES**

11 London Hydro considered the following variables and rejected them in favour of the above,
12 which are closer to the centroid of the service territory.

13 *CDM Activity 2006 to 2014*

14 This variable was rejected as London Hydro believes that the programs including persistence
15 affecting 2006 to 2014 periods are reasonably represented in the wholesale consumption
16 trends.

17 *Labour Force Survey - Employment & Full Time Equivalent*

18 These were rejected as London Hydro distribution revenue is predominantly residential in nature
19 and hence the forecast is better supported by the population variable.

20 *Ontario Real GDP*

21 This variable was used in our 2013 Load Forecast, however when used in our current forecast
22 this variable created a significant negative coefficient. London Hydro determined that this
23 variable was too generic to the province as a whole and not fully representative of the city of
24 London.



1 **RESULTS**

2 The following formula outlines the model used by London Hydro to predict normal weather
3 purchases for 2016 and 2017 Monthly Predicted kWh Purchases.

	<i>Coefficients</i>
WSkWh	6,733,221,371
LonHDD	68,115
LonCDD	727,412
MonthDays	4,684,015
PeakDays	2,081,359
Year	- 3,460,144
Population	426

4
5 The monthly data used in the regression model and the resulting monthly prediction for the
6 actual and forecasted years are provided in the Load Forecast Model filed in Live Excel format.

7 Based on the monthly corrected purchases and the above described variables used in the
8 regression model, London Hydro expects 2016 purchases of 3,237,280,481 kWh and 2017
9 purchases of 3,215,000,040 kWh.

10 The table below shows the modeled purchases generated by the regression model for 2016 and
11 2017 are very close to the recent historical year purchases.



1

TABLE 3.1.2.1: London Hydro FORECAST VS. ACTUAL PURCHASES

Annual Actual vs. Normalized WSkWh

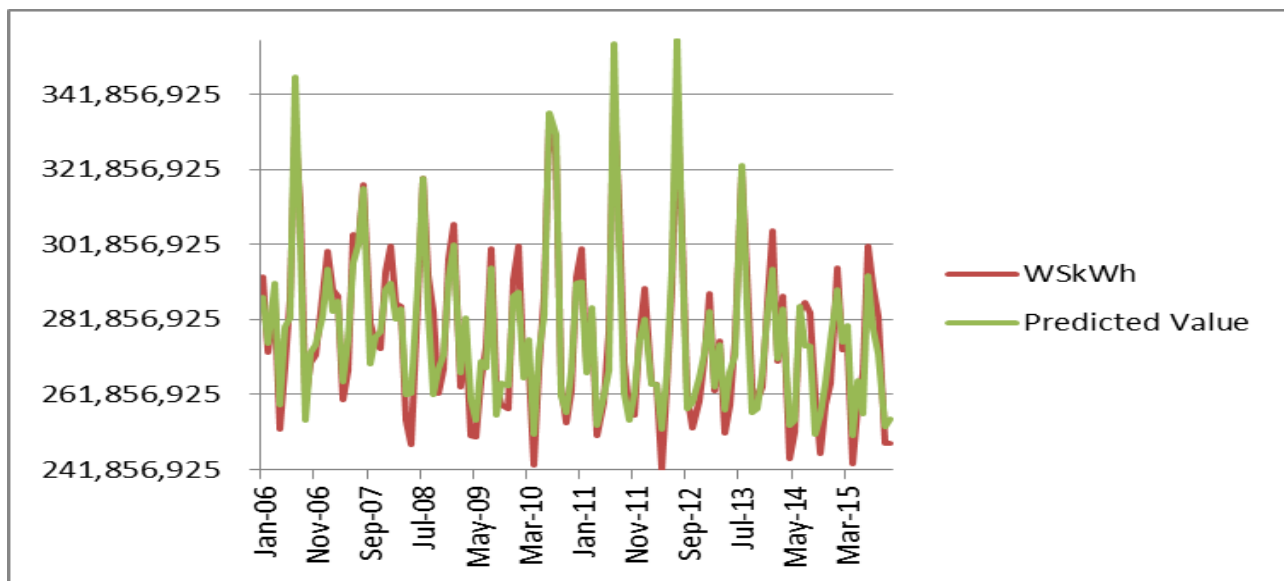
	WSkWh	% Change	Normalized Value	% Change
2006	3,400,452,526		3,412,657,286	
2007	3,457,316,677	1.7%	3,439,522,287	0.8%
2008	3,390,352,069	-1.9%	3,374,339,384	-1.9%
2009	3,265,909,314	-3.7%	3,277,065,679	-2.9%
2010	3,374,790,334	3.3%	3,386,793,783	3.3%
2011	3,358,540,971	-0.5%	3,343,370,724	-1.3%
2012	3,307,326,673	-1.5%	3,340,872,292	-0.1%
2013	3,305,662,923	-0.1%	3,296,317,361	-1.3%
2014	3,248,077,232	-1.7%	3,244,458,120	-1.6%
2015	3,247,096,763	0.0%	3,240,128,565	-0.1%
2016			3,237,280,481	-0.1%
2017			3,215,000,040	-0.7%

2

3 Chart 3-3 below shows the variance between the modeled purchased and the historic
 4 purchases. As shown, the pattern in the forecast years shows a very similar and expected
 5 pattern.

6

CHART 3-3: FORECASTED PURCHASES



7



1 The prediction formula has the following statistical results, which generally indicate the formula
2 has a very good fit to the actual data set.

3 **TABLE 31.2.2: T-STATISTICS FOR ACCEPTED VARIABLES**

Statistic	Value
R Square	90.1%
Adjusted R Square	89.6%
F Test	172.14
Mean Absolute Percentage Error (Annual)	0.4%
Mean Absolute Percentage Error (Monthly)	2.1%
Variable	t Stat
WSkWh	2.63
LonHDD	19.51
LonCDD	29.53
MonthDays	5.25
PeakDays	3.14
Year	- 2.51
Population	1.27

4
5 **3.2.3 BILLED KWH LOAD FORECAST**

6 To determine the weather normalized billed kWh forecast, the total weather normalized forecast
7 purchased kWh (as discussed above) is adjusted for line losses. At this stage of the analysis,
8 adjustments for CDM and wholesale market participants are not yet incorporated.

9 London Hydro has utilized the average loss factor from 2007 to 2015. The average loss factor
10 during this time was 1.0312 or 3.12%; the calculation is shown in Table 3.1.2.3.



1

TABLE 3.1.2.3: AVERAGE LOSS FACTOR

Determination of Loss Factor				
Year	Actual Purchases	Total Billed	Losses	Loss Factor
2006	3,400,452,526	3,294,584,959	105,867,566	1.0311
2007	3,457,316,677	3,332,168,321	125,148,355	1.0362
2008	3,390,352,069	3,282,363,050	107,989,019	1.0319
2009	3,265,909,314	3,101,551,043	164,358,271	1.0503
2010	3,374,790,334	3,324,090,310	50,700,024	1.0150
2011	3,358,540,971	3,267,608,348	90,932,623	1.0271
2012	3,307,326,673	3,208,421,243	98,905,430	1.0299
2013	3,305,662,923	3,172,182,384	133,480,539	1.0404
2014	3,248,077,232	3,185,717,215	62,360,016	1.0192
2015	3,247,096,763	3,149,997,453	97,099,310	1.0312
2016		3,139,197,449		1.0312
2017	-	3,117,592,061		1.0312

2

3 Prior to CDM adjustments, the calculated weather normalized billed kWh for the 2016 Bridge
4 Year and 2017 Test Year are 3,139,197,449 kWh and 3,117,592,061 kWh respectively.

5 **3.2.4 HISTORICAL CUSTOMER DATA**

6 As noted above, this load forecast was prepared for the London Hydro service territory in its
7 entirety. London Hydro relied on historical rate class statistics as reported in the annual RRR
8 2.1.5 submissions to the Board.

9 In order to properly prepare the following forecasts by rate class, London Hydro restated the
10 following billing determinants to align with the anticipated migration of specific customers
11 amongst rate classes. These migration adjustments to the originally filed RRR data were
12 necessary to predict accurately the specific rate class billing determinants and are described as
13 follows:

- 14 • As part of this Application, London Hydro has proposed the removal of the one significant
15 Large User whose lost load has been removed from the purchased wholesale kWh, as
16 explained above. As such, the data reported in the annual RRR filings for this rate class



1 from 2006 until December 31, 2015 has been adjusted to account for this Large User
2 being taken out of the Large User rate class.

- 3 • London Hydro is also proposing the transfer of the other Large User customer who has
4 been transferred into the General Service > 50 kW class. As such, the data reported in
5 the annual RRR filings for this rate class from 2006 until December 31, 2015 has been
6 adjusted to account for this Large User being taken out of the Large User rate class.
- 7 • London Hydro currently has four Wholesale Market Participants (“WMP”), all of whom
8 have opted into the program in mid-2012. To properly allocate the billed kWh calculated
9 above (which is driven by purchases where the four WMP are inherently excluded) and
10 project customer numbers, these four General Service > 50 kW customers were removed
11 from the historical data since becoming WMPs in 2012. These customers are forecasted
12 separately on the “WMP” tab of the load forecast model and added back to the load
13 forecast totals for rate design purposes.

14 After the above-noted reclassifications, all historic data appears in the rate class in which the
15 associated customers are anticipated to be billed upon the completion of this Application.

16 **3.2.5 CUSTOMER/CONNECTION FORECAST BY RATE CLASS**

17 The forecasted number of customer/connections is based on a review of London Hydro’s
18 average annual historical customer/connection data.

19 As required in the DSC, London Hydro performs an annual review of customers to determine if
20 the customers are in the correct rate class. After executive review and approval, affected
21 customers are subjected to rate re-classification. This activity is summarized in Table 3.1.2.4
22 below.



1 **TABLE 3-4: SUMMARY OF ANNUAL RATE CLASS RE-CLASSIFICATION BY YEAR**

Rate Class	GS<50	GS>50	CoGen	LU	Total
2011 From	-13	-35			-48
2011 To	35	13			48
Net 2011	22	-22	0	0	0
2012 From	-12	-38			-50
2012 To	38	12			50
Net 2012	26	-26	0	0	0
2013 From		-44			-44
2013 To	44				44
Net 2013	44	-44	0	0	0
2014 From	-9	-53			-62
2014 To	52	9	1		62
Net 2014	43	-44	1	0	0
2015 From	-8	-40			-48
2015 To	40	8			48
Net 2015	32	-32	0	0	0
2016 From	-38	-57		-2	-97
2016 To	57	40			97
Net 2016	19	-17	0	-2	0
Net 2011 to 2016	186	-185	1	-2	0

2

3 London Hydro utilizes the customer/connection data reported in the applicable RRR
 4 submissions annually, adjusting for the Rate Class re-classifications, noted above, adjusting the
 5 closing prior amounts and then averaging the opening and closing balances annually. The
 6 results are presented in Table 3.1.2.5 below. All rate classes are based on the number of
 7 customers, except for the Unmetered Scattered Load, Sentinel Lighting and Street Lighting rate
 8 classes, which are based on number of connections.



1 **TABLE 3.1.2.5: HISTORIC ANNUAL AVERAGE CUSTOMER/CONNECTIONS BY YEAR**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Average Annual Customers/Connections									
2006	124,978	11,846	1,566	3	1	31,926	777	1,594	172,690
2007	127,035	11,878	1,586	3	1	32,610	762	1,605	175,479
2008	129,174	11,976	1,593	3	1	33,072	752	1,471	178,042
2009	129,621	11,898	1,596	3	1	33,337	738	1,517	178,710
2010	132,014	11,939	1,623	3	1	33,625	728	1,502	181,436
2011	134,718	12,039	1,621	3	1	33,906	717	1,520	184,526
2012	135,373	12,031	1,617	3	1	34,214	697	1,542	185,478
2013	136,671	12,141	1,608	3	1	34,612	681	1,528	187,243
2014	138,010	12,268	1,590	4	1	34,980	660	1,534	189,046
2015	139,861	12,504	1,575	4	1	35,231	636	1,531	191,343

2

3 From the historic data, London Hydro calculates the growth rate for each rate class. London

4 Hydro utilizes the annual growth from the past four years (2012 to 2015) to calculate the

5 geometric growth rate for all rate classes. London Hydro believes these four years best

6 represent the current economic situation of its service territory and takes into consideration the

7 stabilization after the global recession. The results are presented below in Table 3.1.2.6.

8 **TABLE 3.1.2.6: HISTORICAL CUSTOMER/CONNECTION GROWTH RATES BY YEAR**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)
Customer Growth Rate								
2007	1.0165	1.0027	1.0128	0.9730	1.0000	1.0214	0.9800	1.0066
2008	1.0168	1.0082	1.0045	1.0000	1.0000	1.0142	0.9878	0.9169
2009	1.0035	0.9935	1.0018	1.0000	1.0000	1.0080	0.9808	1.0310
2010	1.0185	1.0035	1.0169	1.0000	1.0000	1.0087	0.9871	0.9905
2011	1.0205	1.0084	0.9992	1.0000	1.0000	1.0083	0.9843	1.0120
2012	1.0049	0.9993	0.9975	1.0000	1.0000	1.0091	0.9721	1.0142
2013	1.0096	1.0091	0.9943	1.0000	1.0000	1.0116	0.9766	0.9908
2014	1.0098	1.0105	0.9885	1.1667	1.0000	1.0106	0.9701	1.0042
2015	1.0134	1.0193	0.9909	1.1429	1.0000	1.0072	0.9627	0.9979
Geomean (2012 to 2015)	1.0094	1.0095	0.9928	1.0746	1.0000	1.0096	0.9704	1.0017

9

10 For the 2016 Bridge Year customer/connections forecast, London Hydro applied the resulting

11 rate class specific geometric mean to the total year end 2015 customer/connections. Similarly,

12 London Hydro applied the resulting rate class specific geometric mean to the 2016 Bridge Year

13 results to calculate the 2017 Test Year results.



1 London Hydro would note that the Residential and General Service Less than 50 kW geometric
 2 mean growth of .94% is reasonably consistent with the “2016 Ontario Economic Update:
 3 London Economic Region” by the Credit Unions of Ontario and the Ontario Chamber of
 4 Commerce suggest the labour force growth will be aided by a rising participation rate and is
 5 forecasted at 0.7 percent in 2016 and 0.8 percent in 2017.

6 London Hydro then adjusts for the four Wholesale Market Participant customers to provide for
 7 the total forecasted number of customers and connections for the 2016 Bridge Year and the
 8 2017 Test year. The results are presented in Table 3.1.2.7 below.

9 **TABLE 3.1.2.7: FORECASTED NUMBER OF CUSTOMERS/CONNECTION BY YEAR**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Forecasted Customers/Connections									
2015	141,179	12,623	1,566	4	1	35,570	617	1,534	193,094
2016	142,509	12,743	1,557	4	1	35,912	599	1,537	194,862
Add: WMP									
2015	-	-	4	-	-	-	-	-	4
2016	-	-	4	-	-	-	-	-	4
Total Forecasted Customers/Connections									
2015	141,179	12,623	1,570	4	1	35,570	617	1,534	193,098
2016	142,509	12,749	1,561	4	1	35,912	599	1,537	194,872
Change Customers/Connections									
2015	1,318	119	(9)	-	-	339	(19)	3	1,751
2016	1,330	120	(9)	-	-	342	(18)	3	1,768

10

11 The 2017 Test Year results are discussed below:

- 12 • Residential – The London Hydro service territory has been challenged to reach pre-
 13 recession numbers. London Hydro continues to see increases in the Residential rate class
 14 due to small subdivision growth. At this time, London Hydro is unaware of any future
 15 major residential development plans.
- 16 • General Service – Recent economic data seems to indicate a slow gradual and subtle
 17 growth uptake. Economic trends in London Hydro’s service territory compare favourably
 18 with overall provincial economic trends. While London does show modest growth in this
 19 sector, it is mostly to be found in small services. Conservation initiatives continue to erode
 20 kW demand with more customers moving to the lower rate class. London Hydro is not
 21 aware of any significant future development plans. Accordingly, London Hydro expects to



1 witness a continuation of the modest incline in the General Service rate classes,
 2 consistent with historic data trends.

- 3 • Large Use – Similar to the General Service rate classes, the Large Use rate class is not
 4 expected to see any growth and is projected to remain relatively flat. A large Combined
 5 Heat and Power (CHP) conservation initiative is forecasted to influence this class
 6 significantly. London Hydro is not aware of any significant future developments.
- 7 • Unmetered Scattered Load and Street Lighting connections are projected to show modest
 8 increases in line with the residential and general service rate classes. Sentinel Lighting in
 9 London Hydro’s service territory is projected to continue the slow phasing out of the class.

10 3.2.6 CDM ADJUSTMENTS

11 London Hydro’s 2015 to 2020 CDM plan articulation EM-14-03 was submitted in April 2015.
 12 Table 3.1.2.8 below outlines the plan. The plan for municipal roadway lighting is currently under
 13 development. Notably, the plan also includes three large scale embedded load displacement
 14 generation projects. The timing on these projects is currently unknown so have been placed on
 15 a straight line basis, as have all the other Save-On-Energy programs.

16 **TABLE 3.1.2.8: LONDON HYDRO CDM PLAN BY YEAR**

Rate Class	Program	Total kWh	2015	2016	2017	2018	2019	2020
RES	saveONenergy HEATING & COOLING INCENTIVE Program	6,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
RES	saveONenergy COUPON EVENT Program	4,200,000	700,000	700,000	700,000	700,000	700,000	700,000
RES	saveONenergy NEW HOME CONSTRUCTION Program	1,200,000	200,000	200,000	200,000	200,000	200,000	200,000
RES	saveONenergy HOME ASSISTANCE Program	2,700,000	450,000	450,000	450,000	450,000	450,000	450,000
GS<50	saveONenergy RETROFIT PROGRAM	62,300,000	10,383,333	10,383,333	10,383,333	10,383,333	10,383,333	10,383,333
GS<50	saveONenergy AUDIT FUNDING	1,200,000	200,000	200,000	200,000	200,000	200,000	200,000
GS<50	saveONenergy PROCESS & SYSTEMS Program	12,800,000	2,133,333	2,133,333	2,133,333	2,133,333	2,133,333	2,133,333
GS<50	Embedded Energy Manager subprogram	6,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
GS>50	Embedded Load-Displacement Generation Projects Industrial Customer #1	11,853,000	1,975,500	1,975,500	1,975,500	1,975,500	1,975,500	1,975,500
Large User	Embedded Load-Displacement Generation Projects Industrial Customer #2	70,000,000	11,666,667	11,666,667	11,666,667	11,666,667	11,666,667	11,666,667
GS>50	Embedded Load-Displacement Generation Projects Municipal Customer #3	465,000	77,500	77,500	77,500	77,500	77,500	77,500
GS>50	Embedded Load-Displacement Generation Projects Municipal Customer #4	-	-	-	-	-	-	-
STRL	Municipal Roadway Lighting	5,600,000	5,600,000					
		184,318,000	35,386,333	29,786,333	29,786,333	29,786,333	29,786,333	29,786,333

17
 18 Based on the Conservation First Framework, issued by the Board on September 19, 2014,
 19 London Hydro has been tasked with achieving CDM savings of 196.66 GWh for the period of
 20 2015 to 2020. London Hydro submitted an overall plan to the IESO in April 2015 detailing the
 21 timing of these expected savings. Table 3.1.2.9 below shows the planned savings by year in



1 order for London Hydro to achieve its target (as outlined in the CDM plan in Table 3.1.2.8
 2 above).

3 **TABLE 3-9: LONDON HYDRO PROGRAM SAVINGS BY YEAR**

Description	2015	2016	2017	2018	2019	2020	TOTAL
Planned Program Savings by Year							
2015 Programs	35,386,333	35,386,333	35,386,333	35,386,333	35,386,333	35,386,333	
2016 Programs		29,786,333	29,786,333	29,786,333	29,786,333	29,786,333	
2017 Programs		-	29,786,333	29,786,333	29,786,333	29,786,333	
2018 Programs		-	-	29,786,333	29,786,333	29,786,333	
2019 Programs		-	-	-	29,786,333	29,786,333	
2020 Programs		-	-	-	-	29,786,333	
Total Planned Programs	35,386,333	65,172,667	94,959,000	124,745,333	154,531,667	184,318,000	
Annual % of Planned	19.20%	16.16%	16.16%	16.16%	16.16%	16.16%	100.00%
Allocated Tasked Savings	37,755,815	31,780,837	31,780,837	31,780,837	31,780,837	31,780,838	196,660,000

4
 5 Note that the CDM Planned Savings submitted by London Hydro, summarized above, do not
 6 exceed the savings for which London Hydro was tasked under the Conservation First
 7 Framework. London Hydro recognizes that it will be measured by the latter savings.

8 Consistent with the Board's Guidelines for Electricity Distributor Conservation and Demand
 9 Management (EB-2012-0003), dated April 26, 2012, London Hydro has integrated a manual
 10 adjustment into its 2016 Bridge Year and 2017 Test Year load forecast for anticipated CDM
 11 results.

12 London Hydro's load forecast draws on the regression analysis of historical actual usage
 13 including most of the CDM efforts to the conclusion of the 2014 programs. London Hydro has
 14 taken the following approach, consistent with Board methodology, to developing a CDM
 15 adjustment for the 2016 Bridge Year and 2017 Test Year load forecasts.

16 Table 3.1.2.10 below outlines the program and persistence savings by year to be used in
 17 adjusting the individual rate classes.



1 **TABLE 3.1.2.10: LONDON HYDRO PROGRAM AND PERSISTENCE SAVINGS BY YEAR**

	2015		2016		2017		2017 Total
	Program	2015 Total	Program	Persistence	2016 Total	Program	
RES							
2015	2,350,000	2,350,000		2,350,000	2,350,000		2,350,000
2016			2,350,000		2,350,000		2,350,000
2017						2,350,000	2,350,000
RES Total	2,350,000	2,350,000	2,350,000	2,350,000	4,700,000	2,350,000	4,700,000
GS<50							
2015	13,716,667	13,716,667		13,716,667	13,716,667		13,716,667
2016			13,716,667		13,716,667		13,716,667
2017						13,716,667	13,716,667
GS<50 Total	13,716,667	13,716,667	13,716,667	13,716,667	27,433,333	13,716,667	27,433,333
GS>50							
2015	2,053,000	2,053,000		2,053,000	2,053,000		2,053,000
2016			2,053,000		2,053,000		2,053,000
2017						2,053,000	2,053,000
GS>50 Total	2,053,000	2,053,000	2,053,000	2,053,000	4,106,000	2,053,000	4,106,000
Large User							
2015	11,666,667	11,666,667		11,666,667	11,666,667		11,666,667
2016			11,666,667		11,666,667		11,666,667
2017						11,666,667	11,666,667
Large User Total	11,666,667	11,666,667	11,666,667	11,666,667	23,333,333	11,666,667	23,333,333
STRL							
2015	5,600,000	5,600,000		5,600,000	5,600,000		5,600,000
STRL Total	5,600,000	5,600,000		5,600,000	5,600,000		5,600,000
Grand Total	35,386,333	35,386,333	29,786,333	35,386,333	65,172,667	29,786,333	65,172,667

2
 3 Table 3.1.2.11 below segregates the planned savings as submitted by London Hydro, which are
 4 expected to yield 184.3 GWh on a net basis, from the tasked savings directed by government
 5 which are to achieve 199.66 GWh. The planned savings will be used to reduce the individual
 6 rate classes for the load forecast while the tasked saving will be used for the LRAMVA.

7 **TABLE 3.1.2.11: Allocation of 2016 & 2017 Tasked Savings by Rate Class**

Allocation of 2016 & 2017 Tasked Savings by Rate Class									
Description	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Allocation of 2016 Tasked Savings									
2015 Persistence	2,350,000	13,716,667	2,053,000		11,666,667	5,600,000			35,386,333
2016 Programs	2,350,000	13,716,667	2,053,000		11,666,667				29,786,333
2016 Planned Savings	4,700,000	27,433,333	4,106,000	-	23,333,333	5,600,000	-	-	65,172,667
% Allocator	7.2%	42.1%	6.3%	0.0%	35.8%	8.6%	0.0%	0.0%	100.0%
2016 Tasked Savings	5,014,714	29,270,279	4,380,939	-	24,895,742	5,974,978	-	-	69,536,652
Allocation of 2017 Tasked Savings									
2015 Persistence	2,350,000	13,716,667	2,053,000		11,666,667	5,600,000			35,386,333
2016 Persistence	2,350,000	13,716,667	2,053,000		11,666,667				29,786,333
2017 Programs	2,350,000	13,716,667	2,053,000		11,666,667				29,786,333
2017 Planned Savings	7,050,000	41,150,000	6,159,000	-	35,000,000	5,600,000	-	-	94,959,000
% Allocator	7.42%	43.33%	6.49%	0.00%	36.86%	5.90%	0.00%	0.00%	
2017 Tasked Savings	7,522,071	43,905,419	6,571,409	-	37,343,613	5,974,978	-	-	101,317,489



1 London Hydro has calculated the estimated persistence of 2015 Program savings into the 2016
 2 Bridge Year and 2017 Test Year by rate class. Due to the timing of implementation of these
 3 programs, some, but not all, of the 2015 Program amounts would have been captured in the
 4 2015 actual results used in the load forecast regression analysis.

5 Using the half year rule, London Hydro used the above planned savings to calculate the 2016
 6 Bridge Year and 2017 Test Year load forecast adjustments. The results are presented in Table
 7 3.1.2.12 below. For the 2016 Bridge Year adjustment, London Hydro used 50% of the 2015
 8 Program Savings and 50% of the 2016 Tasked Savings. For the 2017 Test Year adjustment,
 9 London Hydro continued to use 100% of the 2015 Program savings, 50% of the 2016 Tasked
 10 Savings and 50% of the 2017 Tasked Savings.

11 **TABLE 3.1.2.12: Calculation of CDM Load Forecast Adjustment by Rate Class**

Calculation of Load Forecast Adjustment by Rate Class									
Year	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
2016 Load Forecast Adjustment									
2015 Persistence (50%)	1,175,000	6,858,333	1,026,500	-	5,833,333	2,800,000	-	-	17,693,167
2016 Programs (50%)	1,175,000	6,858,333	1,026,500	-	5,833,333	-	-	-	14,893,167
Total	2,350,000	13,716,667	2,053,000	-	11,666,667	2,800,000	-	-	32,586,333
2017 Load Forecast Adjustment									
2015 Persistence (100%)	2,350,000	13,716,667	2,053,000	-	11,666,667	5,600,000	-	-	35,386,333
2016 Persistence (50%)	1,175,000	6,858,333	1,026,500	-	5,833,333	-	-	-	14,893,167
2017 Programs (50%)	1,175,000	6,858,333	1,026,500	-	5,833,333	-	-	-	14,893,167
Total	4,700,000	27,433,333	4,106,000	-	23,333,333	5,600,000	-	-	65,172,667

13 **3.2.7 LRAMVA BASELINE CALCULATION**

14 Consistent with Board Appendix 2-I, London Hydro has calculated the LRAMVA baseline.

15 London Hydro has prepared an adjusted baseline calculation and included the results in Table
 16 3.1.2.13 below.

17 **TABLE 3.1.2.13: ADJUSTED LRAMVA BASELINE**

ADJUSTED LRAMVA BASELINE	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
2016 Tasked Savings	5,014,714	29,270,279	4,380,939	-	24,895,742	5,974,978	-	-	35,386,333
2017 Tasked Savings	7,522,071	43,905,419	6,571,409	-	37,343,613	5,974,978	-	-	29,786,333
Total	12,536,784	73,175,698	10,952,348	-	62,239,354	11,949,956	-	-	170,854,141

18



1 **3.2.8 WHOLESALE MARKET PARTICIPANTS**

2 London Hydro currently has four Wholesale Market Participants (“WMPs”) operating within its
 3 service territory. These customers buy power directly from the IESO but use the London Hydro
 4 distribution system to deliver the power to their business locations. They are billed distribution
 5 and transmission charges by London Hydro for use of its facilities in delivering power to their
 6 service addresses within London. Other charges such as commodity, Global Adjustment and
 7 wholesale market service are billed directly to the WMPs by the IESO.

8 The regression analysis to derive the forecasted purchased kWh inherently excludes the kWh
 9 related to the WMPs. For this reason London Hydro has excluded their historical billed kWh
 10 data from the rate class energy kWh and demand kW allocation calculations. London Hydro has
 11 forecasted the kWh consumption for these customers based on their historical usage. The four
 12 WMP opted into the program in mid-2012 and are General Service > 50 kW customers.

13 To forecast the consumption of these customers, London Hydro utilized the 2012 to 2015 actual
 14 results as applied to the previously calculated geometric mean for the applicable rate class. The
 15 results are shown in Table 3.1.2.14 below.

16 **TABLE 3.1.2.14: WMP FORECASTED KWH**

Year	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Historical kWh									
2011			-						-
2012			12,651,732						12,651,732
2013			17,002,607						17,002,607
2014			16,769,932						16,769,932
2015			17,665,651						17,665,651
Geometric Mean (2012 to 2015)			99.82%						
Forecasted kWh									
2016			17,633,855						17,633,855
2017			17,602,117						17,602,117

17
 18 Similar to the demand calculations following, London Hydro calculated the WMPs demand by
 19 comparing the actual kW demand to the actual kWh consumption and using the average applied
 20 to the above forecasted kWh amounts to derive the forecasted bill kW. The results are
 21 presented in Table 3.1.2.15 below.



1

TABLE 3.1.2.15: WMP FORECASTED KW

Year	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Historical kW									
2011			-						-
2012			25,109						25,109
2013			31,196						31,196
2014			30,245						30,245
2015			31,912						31,912
Percentage kW/kWh									
2011									
2012			0.20%						
2013			0.18%						
2014			0.18%						
2015			0.18%						
Average (2012 to 2015)									
			0.18%						
Total kW Forecast									
2016			32,004						32,004
2017			31,946						31,946

2

3 **3.2.9 BILLED KWH LOAD FORECAST BY RATE CLASS**

4 This section reviews the methodology utilized by London Hydro to calculate the forecasted load
 5 by rate class.

6 London Hydro begins with the annual historic billed kWh as reported in the applicable annual
 7 RRR submissions and adjusts the data for the reclassifications noted above in Section 3.2.4.

8 The results are presented in Table 3.1.2.16 below.



1

TABLE 3.1.2.16: HISTORICAL KWH USAGE BY YEAR

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Consumption (kWh)									
2006	1,088,755,114	410,108,836	1,627,356,865	30,875,410	108,044,054	22,245,536	870,735	6,328,409	3,294,584,959
2007	1,117,283,048	417,026,808	1,615,211,987	37,213,732	115,273,670	23,071,309	872,679	6,215,088	3,332,168,321
2008	1,119,770,671	418,620,282	1,561,039,026	39,755,988	113,396,330	23,270,767	862,739	5,647,248	3,282,363,050
2009	1,067,984,894	392,901,741	1,446,931,261	42,590,885	121,341,105	23,394,430	836,233	5,570,493	3,101,551,043
2010	1,146,514,255	407,620,994	1,571,501,087	45,965,216	122,601,392	23,532,529	831,089	5,523,748	3,324,090,310
2011	1,128,889,459	407,986,442	1,539,418,651	37,918,668	123,286,320	23,650,724	812,670	5,645,414	3,267,608,348
2012	1,103,889,962	400,003,533	1,513,436,751	39,375,740	121,512,036	23,812,743	790,064	5,600,414	3,208,421,243
2013	1,091,107,757	400,291,647	1,485,615,093	43,072,446	121,362,031	24,330,710	772,541	5,630,160	3,172,182,384
2014	1,096,195,854	405,335,151	1,499,515,193	36,488,426	117,379,515	24,496,241	738,785	5,568,049	3,185,717,215
2015	1,084,665,542	399,647,918	1,484,614,973	38,831,481	111,335,382	24,640,359	738,971	5,522,828	3,149,997,453

2

3 London Hydro then takes the annual results from Table 3.1.2.16 above and divides the annual
 4 rate class total by the respective annual customer/connection data shown in Table 3.1.2.5. The
 5 results are presented in Table 3.1.2.17 below.

6

TABLE 3.1.2.17: AVERAGE ANNUAL CONSUMPTION PER CUSTOMER/CONNECTION

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)
Average Consumption per Customer (kWh)								
2006	8,712	34,620	1,039,500	10,013,751	108,044,054	697	1,120	3,970
2007	8,795	35,108	1,018,667	12,404,636	115,273,670	707	1,146	3,873
2008	8,669	34,956	980,109	13,252,068	113,396,330	704	1,147	3,839
2009	8,239	33,023	906,858	14,196,962	121,341,105	702	1,133	3,673
2010	8,685	34,142	968,531	15,321,739	122,601,392	700	1,141	3,677
2011	8,380	33,888	949,479	12,639,556	123,286,320	698	1,133	3,713
2012	8,154	33,247	935,810	13,125,247	121,512,036	696	1,134	3,632
2013	7,983	32,972	923,890	14,357,482	121,362,031	703	1,135	3,685
2014	7,943	33,041	943,388	10,425,265	117,379,515	700	1,119	3,629
2015	7,755	31,962	942,613	9,707,870	111,335,382	699	1,163	3,607

7

8 From the historical usage per customer/connection data, London Hydro calculates the annual
 9 growth rate per customer/connection per year. For all rate classes, London Hydro utilizes the
 10 annual growth rate from the past four years (2012 to 2015) to calculate the geometric growth
 11 rate. London Hydro believes four years best represents the current economic situation of its
 12 service territory and takes into consideration the stabilization after the global recession. The
 13 results are presented in Table 3.1.2.18 below.



1

TABLE 3.1.2.18: HISTORICAL KWH USAGE GROWTH RATES BY YEAR

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)
Average Growth per Customer								
2007	100.95%	101.41%	98.00%	123.88%	106.69%	101.43%	102.32%	97.56%
2008	98.57%	99.57%	96.21%	106.83%	98.37%	99.58%	100.09%	99.12%
2009	95.04%	94.47%	92.53%	107.13%	107.01%	99.72%	98.78%	95.68%
2010	105.41%	103.39%	106.80%	107.92%	101.04%	99.72%	100.71%	100.11%
2011	96.49%	99.26%	98.03%	82.49%	100.56%	99.71%	99.30%	100.98%
2012	97.30%	98.11%	98.56%	103.84%	98.56%	99.71%	100.09%	97.82%
2013	97.90%	99.17%	98.73%	109.39%	99.88%	101.01%	100.09%	101.46%
2014	99.50%	100.21%	102.11%	72.61%	96.72%	99.57%	98.59%	98.48%
2015	97.63%	96.73%	99.92%	93.12%	94.85%	99.86%	103.93%	99.39%
Geomean (2012 to 2015)	98.08%	98.55%	99.82%	93.61%	97.48%	100.04%	100.66%	99.28%

2

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5

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7

To derive the 2016 Bridge Year forecast, London Hydro applied the geometric mean growth rate by class to the 2015 average consumption per customer/connections to derive the forecasted average annual kWh consumption. To determine the 2017 Test Year forecast, London Hydro applied the same geometric growth rate by class to the calculated 2016 Bridge Year forecasted average annual kWh usage. The results are presented in Table 3-19 below.

8

9

TABLE 3.1.2.19: FORECASTED AVERAGE ANNUAL KWH USAGE PER CUSTOMER/CONNECTION BY YEAR

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)
Forecasted Average Consumption per Customer (kWh)								
2016	7,606	31,497	940,916	9,088,022	108,534,152	699	1,171	3,581
2017	7,460	31,039	939,222	8,507,751	105,803,402	699	1,179	3,555

10

11

12

13

London Hydro used the average kWh usage from Table 3.1.2.19 and multiplied it by the forecasted customer/connections from Table 3.1.2.7 to determine the non-weather normalized total kWh by rate class. The results are presented in Table 3.1.2.20 below.

14

TABLE 3.1.2.20: FORECASTED BILLED KWH – WEATHER NON-NORMALIZED

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Calculated Consumption Non-Weather Adjusted (kWh)									
2016	1,073,807,474	397,586,631	1,473,474,456	36,352,088	108,534,152	24,863,430	722,507	5,493,254	3,120,833,992
2017	1,063,117,140	395,529,977	1,462,368,654	34,031,004	105,803,402	25,102,488	706,221	5,464,035	3,092,122,921

15



1 As previously noted, the forecasted weather normalized billed kWh for the 2016 Bridge Year
 2 and the 2017 Test Year are 3,139,197,449 kWh and 3,117,592,061 kWh as shown in Table
 3 3.1.2.3 above. These amounts represent weather normalized billed kWh but the forecasted
 4 billed kWh amounts shown in Table 3.1.2.20 above are based on actual weather conditions,
 5 which means they are weather non-normalized. In order to reconcile these numbers back to the
 6 macro forecast, the non-weather normalized kWh amounts, identified in Table 3-19, are
 7 adjusted based on weather sensitivity factors.

8 To determine the weather sensitivity of the various rate classes, London Hydro utilized the
 9 HONI weather sensitivity data prepared in the 2006 Load Profile Study. London Hydro then
 10 calculated the weighted average percentage of sensitive load and applied these percentages to
 11 the amounts calculated in Table 3.1.2.20 above to derive the total weather sensitive load by rate
 12 class. The results are presented in Table 3.1.2.21 below.

13 **TABLE 3.1.2.21: WEATHER SENSITIVE LOAD**

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Calculation of Weather Sensitive Load									
% of Load	100.0%	100.0%	76.5%	48.9%	44.4%				
2016	1,073,807,474	397,586,631	1,126,618,569	17,779,806	48,221,724	-	-	-	2,664,014,204
2017	1,063,117,140	395,529,977	1,118,127,073	16,644,564	47,008,452	-	-	-	2,640,427,205

14
 15 London Hydro then allocated the necessary weather normalization adjustment among the rate
 16 classes based on their weather sensitive load calculated in Table 3.1.2.21 above. The results
 17 are presented in Table 3.1.2.22 below.

18 **TABLE 3.1.2.22: WEATHER NORMALIZATION ADJUSTMENT**

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Allocation of Weather Adjustment									
Percent	40.3%	14.9%	42.3%	0.7%	1.8%	0.0%	0.0%	0.0%	100.0%
2016	7,401,919	2,740,625	7,765,954	122,559	332,400	-	-	-	18,363,457
Percent	40.3%	15.0%	42.3%	0.6%	1.8%	0.0%	0.0%	0.0%	100.0%
2017	10,254,658	3,815,219	10,785,275	160,551	453,436	-	-	-	25,469,140

19
 20 To calculate the 2016 Bridge Year and 2017 Test Year weather normalized kWh forecast,
 21 London Hydro added the results of Table 3.1.2.21 and the results of Table 3.1.2.22. The



1 resulting weather normalized billed kWh forecast is presented in Table 3.1.2.23 below. Amounts
 2 presented here exclude any adjustments for CDM and kWh related to Wholesale Market
 3 Participants.

4 **TABLE 3.1.2.23: TOTAL WEATHER NORMALIZED KWH BY RATE CLASS**

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
TOTAL NORMALIZED LOAD FORECAST									
2016	1,081,209,393	400,327,256	1,481,240,410	36,474,647	108,866,552	24,863,430	722,507	5,493,254	3,139,197,449
2017	1,073,371,798	399,345,196	1,473,153,929	34,191,555	106,256,838	25,102,488	706,221	5,464,035	3,117,592,061

5
 6 In order to properly forecast the 2016 Bridge Year and 2017 Test Year Load, London Hydro
 7 needs to reduce the Load Forecast for the anticipated Conservation Demand Management
 8 (“CDM”) programs savings and add the forecasted kWh related to the WMP noted in Section
 9 3.2.4 above. For more information on the CDM Adjustment and the WMP Adjustment, please
 10 see Section 3.2.4 and Section 3.2.5 respectively. The results of these adjustments are
 11 presented in Table 3.1.2.24 below.

12 **TABLE 3.1.2.24: CDM AND WMP ADJUSTMENTS**

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
CDM ADJUSTMENT									
2016	(2,350,000)	(13,716,667)	(2,053,000)	-	(11,666,667)	(2,800,000)	-	-	(32,586,333)
2017	(4,700,000)	(27,433,333)	(4,106,000)	-	(23,333,333)	(5,600,000)	-	-	(65,172,667)
WMP ADJUSTMENT									
2015			17,633,855						17,633,855
2016			17,602,117						17,602,117

13
 14 London Hydro’s total weather normalized load forecast, including CDM and WMP, is shown in
 15 Table 3.1.2.25 below.



1 **TABLE 3.1.2.25: LONDON HYDRO'S WEATHER NORMALIZED LOAD FORECAST**

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen	Adjusted Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
TOTAL ADJUSTED WEATHER NORMALIZED LOAD FORECAST									
2016	1,078,859,393	386,610,590	1,496,821,265	36,474,647	97,199,885	22,063,430	722,507	5,493,254	3,124,244,971
2017	1,068,671,798	371,911,863	1,486,650,047	34,191,555	82,923,505	19,502,488	706,221	5,464,035	3,070,021,511

2
3 **3.2.10 BILLED KW LOAD FORECAST**

4 The volumetric revenue components for General Service > 50 kW, Co-Generation, Large Use,
 5 Street Lighting and Sentinel Lighting are calculated based on billed kW demand. Since the load
 6 forecast is calculated based on kWh, forecasted kW for these classes must be correlated with
 7 the forecasted kWh for each class.

8 London Hydro began with the annual historic billed kW as reported in the applicable annual
 9 RRR submissions and adjusted the data for the reclassifications noted above in Section 3.2.4.
 10 The results are presented in Table 3.1.2.26 below.

11 **TABLE 3.1.2.26: HISTORICAL KW BY RATE CLASS BY YEAR**

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen Stand-by	Co-Gen Non Stand-by	Co-Gen Total	Adjusted Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Demand (kW)											
2006	-	-	3,915,477	155,066	32,470	187,536	216,900	63,698	2,347	-	4,385,958
2007	-	-	4,060,704	154,800	38,943	193,743	225,300	64,717	2,369	-	4,546,833
2008	-	-	3,931,362	154,800	38,424	193,224	222,580	65,068	2,335	-	4,414,570
2009	-	-	3,753,529	154,800	37,861	192,661	232,523	65,643	2,278	-	4,246,633
2010	-	-	4,011,621	154,800	36,305	191,105	233,420	66,009	2,260	-	4,504,414
2011	-	-	3,888,174	154,800	48,044	202,844	239,280	66,345	2,203	-	4,398,846
2012	-	-	3,888,895	154,800	46,415	201,215	233,476	66,305	2,146	-	4,392,037
2013	-	-	3,840,563	154,800	68,938	223,738	234,157	68,984	2,099	-	4,369,541
2014	-	-	3,810,876	154,800	72,831	227,631	229,583	68,713	2,005	-	4,338,809
2015	-	-	3,784,947	154,800	75,192	229,992	212,176	69,126	2,009	-	4,298,250
Average (2012 to 2015)	-	-	3,831,320	154,800	65,844	220,644	227,348	68,282	2,065	-	4,349,659

12
 13 London Hydro then calculated the annual historical ratios, excluding Co-Generation, between
 14 the historical kW in Table 3.1.2.26 and the historical kWh in Table 3.1.2.16. London Hydro
 15 utilized the average from the past four years (2012 to 2015) to calculate the average kW/kWh
 16 relationships. London Hydro believes these four years best represent the current economic
 17 situation of its service territory and take into consideration the stabilization after the global
 18 recession. The results are presented in Table 3.1.2.27 below.



1 **TABLE 3.1.2.27: HISTORICAL BILLED KW/KWH RATIO BY RATE CLASS BY YEAR**

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen Stand-by	Co-Gen Non Stand-by	Co-Gen Total	Adjusted Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Percentage of kW to kWh											
2006			0.240%				0.200%	0.290%	0.270%		
2007			0.250%				0.200%	0.280%	0.270%		
2008			0.250%				0.200%	0.280%	0.270%		
2009			0.260%				0.190%	0.280%	0.270%		
2010			0.260%				0.190%	0.280%	0.270%		
2011			0.250%				0.190%	0.280%	0.270%		
2012			0.260%				0.190%	0.280%	0.270%		
2013			0.260%				0.190%	0.280%	0.270%		
2014			0.250%				0.200%	0.280%	0.270%		
2015			0.250%				0.190%	0.280%	0.270%		
Average (2012 to 2015)			0.255%				0.193%	0.280%	0.270%		

2
 3 To derive the 2016 Bridge Year forecast for the demand based rate classes excluding Co-
 4 Generation, London Hydro applied the average relationship by rate class to the 2016 Bridge
 5 Year weather normalized, CDM adjusted forecast. The same approach is taken for the 2017
 6 Test Year kW forecast. For Co-Generation, London Hydro is using the stand-by boilerplate
 7 generation plus the last four year's historical average, as shown in Table 3.1.2.26 above. Based
 8 on the calculations in Section 3.2.10, London Hydro also added an adjustment to reflect the
 9 Wholesale Market Participants. The results are presented in Table 3.1.2.28 below.

10 **TABLE 3.1.2.28: FORECASTED BILLED KW BY RATE CLASS BY YEAR**

Year	Residential	General Service < 50 kW	Adjusted General Service > 50 kW	Co-Gen Stand-by	Co-Gen Non Stand-by	Co-Gen Total	Adjusted Large Use	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Total Demand Forecast (kW)											
2016	-	-	3,771,928	154,800	65,844	220,644	187,110	61,778	1,951	-	4,243,411
2017	-	-	3,746,072	154,800	65,844	220,644	159,628	54,607	1,907	-	4,182,858
WMP Adjustment											
2016	-	-	32,004	-	-	-	-	-	-	-	32,004
2017	-	-	31,946	-	-	-	-	-	-	-	31,946
Total Adjusted Demand (kW)											
2016	-	-	3,803,932	154,800	65,844	220,644	187,110	61,778	1,951	-	4,275,415
2017	-	-	3,778,018	154,800	65,844	220,644	159,628	54,607	1,907	-	4,214,804

11
 12 **3.2.11 SUMMARY OF 2016 AND 2017 LOAD FORECAST**

13 Table 3.1.2.29 below provides a summary of the total forecasted customer/connections,
 14 forecasted billed kWh and kW for all customer classes including CDM Adjustments but excludes



1 WMP for the 2016 Bridge Year and the 2017 Test Year. These values are used for the
 2 calculation of energy revenue in the working capital calculation.

3 **TABLE 3.1.2.29: WEATHER NORMALIZED LOAD FORECASTED BY RATE CLASS**

Weather Normalized Load Forecast by Rate Class							
Line No.	Rate Class	2016			2017		
		Cust/Conn	kWh	kW	Cust/Conn	kWh	kW
1	Residential	141,179	1,078,859,393	-	142,509	1,068,671,798	-
2	GS < 50 kW	12,623	386,610,590	-	12,749	371,911,863	-
3	GS > 50 - 4,999 kW	1,566	1,479,187,410	3,771,928	1,557	1,469,047,929	3,746,072
4	Wholesale Market Participant						
5	Co-Generation	4	36,474,647	65,844	4	34,191,555	65,844
	Standby			154,800			154,800
6	Large Use	1	97,199,885	187,110	1	82,923,505	159,628
7	Street Lights	35,570	22,063,430	61,778	35,912	19,502,488	54,607
8	Sentinel Lights	617	722,507	1,951	599	706,221	1,907
9	Unmetered Scattered Load	1,534	5,493,254	-	1,537	5,464,035	-
10	Total	193,094	3,106,611,116	4,243,411	194,868	3,052,419,394	4,182,858

4
 5 Table 3.1.2.30 below provides a summary of the total forecasted customer/connections,
 6 forecasted billed kWh and kW for all customer classes including CDM Adjustments and includes
 7 WMP for the 2016 Bridge Year and the 2017 Test Year. These values are used for the cost
 8 allocation and rate design.

9 **TABLE 3.1.2.30: LOAD FORECAST FOR COST ALLOCATION & DISTRIBUTION RATE DESIGN**

Weather Normalized Load Forecast by Rate Class - Used for Cost Allocation and Distribution Rate Design							
Line No.	Rate Class	2016			2017		
		Cust/Conn	kWh	kW	Cust/Conn	kWh	kW
1	Residential	141,179	1,078,859,393	-	142,509	1,068,671,798	-
2	GS < 50 kW	12,623	386,610,590	-	12,749	371,911,863	-
3	GS > 50 - 4,999 kW	1,566	1,479,187,410	3,771,928	1,557	1,469,047,929	3,746,072
4	Wholesale Market Participant	4	17,633,855	32,004	4	17,602,117	31,946
5	Co-Generation	4	36,474,647	65,844	4	34,191,555	65,844
	Standby			154,800			154,800
6	Large Use	1	97,199,885	187,110	1	82,923,505	159,628
7	Street Lights	35,570	22,063,430	61,778	35,912	19,502,488	54,607
8	Sentinel Lights	617	722,507	1,951	599	706,221	1,907
9	Unmetered Scattered Load	1,534	5,493,254	-	1,537	5,464,035	-
10	Total	193,098	3,124,244,971	4,275,415	194,872	3,070,021,511	4,214,804

10
 11 London Hydro has completed RRWF Sheet 10 Load Forecast, which has been filed in Live
 12 Excel format with the RRWF and is included in Exhibit 3 Tab 1 Schedule 2 Attachment 1.1



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RRWF SHEET 10 LOAD FORECAST



Revenue Requirement Workform (RRWF) for 2017 Filers

Load Forecast Summary

This spreadsheet provides a summary of the customer and load forecast on which the test year revenue requirement is derived. The amounts serve as the denominators for deriving the rates to recover the test year revenue requirement for purposes of this RRWF.

The information to be input is inclusive of any adjustments to kWh and kW to reflect the impacts of CDM programs up to and including CDM programs planned to be executed in the test year. i.e., the load forecast adjustments determined in **Appendix 2-1** should be incorporated into the entries. The inputs should correspond with the summary of the Load Forecast for the Test Year in **Appendix 2-1B** and in Exhibit 3 of the application.

Appendix 2-1B is still required to be filled out, as it also provides a year-over-year variance analysis of demand growth and trends from historical actuals to the Bridge and Test Year forecasts.

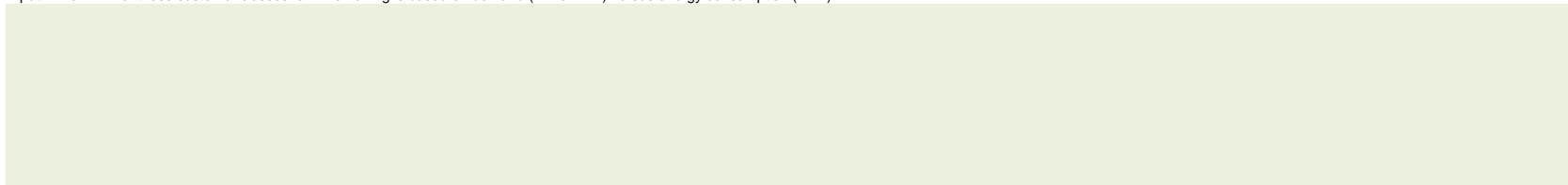
Stage in Process:

Initial Application

Customer Class		Initial Application			Customer / Connections			Per Board Decision		
Input the name of each customer class.		Customer / Connections	kWh	kW/kVA ⁽¹⁾	Customer / Connections	kWh	kW/kVA ⁽¹⁾	Customer / Connections	kWh	kW/kVA ⁽¹⁾
		Test Year average or mid-year	Annual	Annual	Test Year average or mid-year	Annual	Annual	Test Year average or mid-year	Annual	Annual
1	Residential	141,844	1,068,671,798	-						
2	GS < 50 kW	12,686	371,911,863	-						
3	GS > 50 - 4,999 kW	1,562	1,469,047,929	3,746,072						
4	Wholesale Market Participant	4	17,602,117	31,946						
5	Co-Generation	4	10,203,346	65,844						
6	Standby	-	23,988,209	154,800						
7	Large Use	1	82,923,505	159,628						
8	Street Lights	35,741	19,502,488	54,607						
9	Sentinel Lights	608	706,221	1,907						
10	Unmetered Scattered Load	1,536	5,464,035	-						
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
Total			3,070,021,511							

Notes:

⁽¹⁾ Input kW or kVA for those customer classes for which billing is based on demand (kW or kVA) versus energy consumption (kWh)





1 **CDM ADJUSTED FOR THE LOAD FORECAST**

2 Consistent with the OEB's Guideline EB-2012-0003 - Guidelines for Electricity Distributor
3 Conservation and Demand Management, it is expected that London Hydro integrate an
4 adjustment into the 2017 load forecast that takes into account CDM impacts. The distributor
5 should ensure that it has fully considered measured impacts persisting from prior years, and the
6 expected impacts from new programs on the 2017 load forecast. London Hydro has included
7 this in its load forecast found in Exhibit 3 Tab 1 Schedule 2.

8 The CDM targets and the LRAMVA balances are based on the reported IESO results, which are
9 annualized. It is recognized that new CDM programs in a year are not in effect for the full year,
10 although persistence of prior years' programs will be. Therefore, the actual impact on the load
11 forecast for the first year of a program should not be the full annualized amount. For this
12 reason, the amount that will be used for the LRAMVA will be related to, but not necessarily
13 equal to, the CDM adjustment for the load forecast.

14 London Hydro has documented the CDM savings to be used as the basis for the 2017 LRAMVA
15 balance and the corresponding adjustment to the 2017 load forecast. In addition, the allocation
16 of the CDM savings for the LRAMVA and the load forecast adjustment should be provided by
17 customer class and for both kWh and, as applicable, kW. London Hydro has included this in its
18 load forecast found in Exhibit 3 Tab 1 Schedule 2.

19 London Hydro acknowledges that the OEB provided Appendix 2-I as one approach for
20 calculating the aggregate amounts for the LRAMVA and the corresponding CDM adjustment to
21 the load forecast. The Minimum Filing Requirements issued on July 14, 2016 suggest that
22 London Hydro has the option to alter the default methodology for the 2017 CDM kWh savings to
23 align with its 2015-2020 CDM plans, but must clearly explain and support its proposed
24 approach. London Hydro LRAMVA submission can be found in Exhibit 3 Tab 1 Schedule 2.

25 London Hydro herein files the OEB Appendix 2-I LF_CDM for compliance purposes only.
26 Please see Exhibit 3 Tab 1 Schedule 3 Attachment 1.1.



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OEB APPENDIX 2-I LF_CDM

**Appendix 2-I
 Load Forecast CDM Adjustment Work Form (2017)**

Appendix 2-I was initially 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 into dollar 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 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.

2017 is the third year of the six-year (2015-2020) Conservation First program. Final results for the 2011-14 program were issued in the fall of 2015, and the program is completed, although in some instances disposition of the amounts has been deferred. For the purposes of the 2015-2020 LRAMVA, and the impact of CDM on the load forecast, CDM programs in 2014 and earlier are implicit in the historical data on which the base load forecast is developed. Only impacts of 2015 to 2017 CDM programs need to be reflected in the manual load forecast adjustment and for the LRAMVA threshold amount in 2017 and carrying forward, although the half-year impact of 2015 CDM programs on the 2015 historical data is also assumed to be reflected in the base load forecast.

The new six year (2015-2020) CDM program works similarly to the previous 2011-2014 CDM program, meaning that distributors will offer programs each year that, over the six years (from January 1, 2015 to December 31, 2020) will strive to cumulatively achieve savings meeting the new six year CDM target. In other words, distributors will be able to offer and execute programs on a basis so that cumulatively over the period, the measured impacts, including persistence, of the CDM programs will accumulate towards achieving each distributor's 2015-2020 CDM target.

2015-2020 CDM Program - 2017, third 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 IESO 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 (18.67%) 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 established by the IESO.

6 Year (2015-2020) kWh Target:							
196,660,000							
	2015	2016	2017	2018	2019	2020	Total
	%						
2015 CDM Programs	4.76%	4.76%	4.76%	4.76%	4.76%	4.76%	28.57%
2016 CDM Programs		4.76%	4.76%	4.76%	4.76%	4.76%	23.81%
2017 CDM Programs			4.76%	4.76%	4.76%	4.76%	19.05%
2018 CDM Programs				4.76%	4.76%	4.76%	14.29%
2019 CDM Programs					4.76%	4.76%	9.52%
2020 CDM Programs						4.76%	4.76%
Total in Year	4.76%	9.52%	14.29%	19.05%	23.81%	28.57%	100.00%
	kWh						
2015 CDM Programs	9,364,761.90	9,364,761.90	9,364,761.90	9,364,761.90	9,364,761.90	9,364,761.90	56,188,571.43
2016 CDM Programs		9,364,761.90	9,364,761.90	9,364,761.90	9,364,761.90	9,364,761.90	46,823,809.52
2017 CDM Programs			9,364,761.90	9,364,761.90	9,364,761.90	9,364,761.90	37,459,047.62
2018 CDM Programs				9,364,761.90	9,364,761.90	9,364,761.90	28,094,285.71
2019 CDM Programs					9,364,761.90	9,364,761.90	18,729,523.81
2020 CDM Programs						9,364,761.90	9,364,761.90
Total in Year	9,364,761.90	18,729,523.81	28,094,285.71	37,459,047.62	46,823,809.52	56,188,571.43	196,660,000.00

Note: The default formulae in the above table assume that 1/21 of the 2015-2020 kWh CDM target is required each year so that, including persistence, 100% of the kWh target is achieved by the end of 2020. The distributor can input the 2015 CDM savings, including persistence from 2016 to 2020, once the reports become available. The distributor can also input estimates or forecasts of the 2016 and 2017 CDM programs if it believes that these are more realistic; such information would typically be derived from the CDM plans that the distributor has filed with the IESO. Similarly, CDM savings and persistence into future years can be estimated for 2018, 2019 and 2020 CDM programs. However, the distributor will have to support its proposals for estimated or forecasted savings, particularly beyond the 2017 test year. The sum of cumulative savings, including persistence, should equal the target entered into cell A25.

Determination of 2017 Load Forecast Adjustment

The Board 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 2014 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, 2013, 2014 and 2015 CDM Final Reports, issued by the OPA/IESO for the distributor, the distributor should input the "gross" and "net" results of the cumulative CDM savings for 2014 into cells D84 to E88. 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	"Net-to-Gross" Conversion Factor (%g)
Persistence of Historical CDM programs to 2015				
2006-2010 CDM programs				
2011 CDM program				
2012 CDM program				
2013 CDM program				
2014 CDM program				
2015 CDM program				
2006 to 2015 OPA CDM programs: Persistence to 2017	0	0	0	0.00%

The default values below represent the factor used for how 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 the assumption that impacts of previous year CDM programs are already implicitly reflected in the actual data for historical years that are used to derive the load forecast prior to any manual CDM adjustment for the 2017 test year.

Weight Factor for Inclusion in CDM Adjustment to 2017 Load Forecast						
	2015	2016	2017	2018	2019	2020
Weight Factor for each year's CDM program impact on 2014 load forecast	0.5	1	0.5	0	0	0
<i>Default Value selection rationale.</i>	<i>Default is 0, but one option is for full year impact of persistence of 2015 CDM programs on 2017 load forecast, but 50% impact in base forecast (first year impact of 2014 CDM programs on 2014 actuals, which is part of the data for the load forecast.</i>	<i>Full year impact of persistence of 2015 programs on 2015 load forecast. 2015 CDM program impacts are not in the base forecast.</i>	<i>Only 50% of 2016 CDM programs are assumed to impact the 2016 load forecast based on the "half-year" rule.</i>	<i>2018, 2019 and 2020 are future years beyond the 2017 test year. No impacts of CDM programs beyond the 2017 test year are factored into the test year load forecast.</i>		

Distributor can select "0", "0.5", or "1" from drop-down list

2015-2020 LRAMVA and 2017 CDM adjustment to Load Forecast

One manual adjustment for CDM impacts to the 2017 load forecast is made. There is a different but related threshold amount that is used for the 2017 LRAMVA amount for Account 1568.

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 2017, for assessing performance against the five-year target.

If used to determine the manual CDM adjustment for the system purchased kWh, the proposed loss factor should correspond with the proposed total loss factor calculated in Appendix 2-R

The Manual Adjustment for the 2017 Load Forecast is the amount manually subtracted from the system-wide load forecast (either based on a purchased or billed basis) derived from the base forecast from historical data.

If the distributor has developed their load forecast on a system purchased basis, then the manual adjustment should be on a 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 IESO-measured impacts were directed at specific customer classes), for both the LRAMVA and for the load forecast adjustment.

	2015	2016	2017	2018	2019	2020	Total for 2017
Amount used for CDM threshold for LRAMVA (2017)	9,364,761.90	9,364,761.90	9,364,761.90				28,094,285.71
Manual Adjustment for 2017 Load Forecast (billed basis)	4,682,380.95	9,364,761.90	4,682,380.95	-	-	-	18,729,523.81
Proposed Loss Factor (TLF)	3.15%	Format: X.XX%					
Manual Adjustment for 2017 Load Forecast (system purchased basis)	4,829,875.95	9,659,751.90	4,829,875.95	-	-	-	19,319,503.81

Manual adjustment uses "gross" versus "net" (i.e. numbers multiplied by (1 + g). The Weight factor is also used to calculate the impact of each year's program on the CDM adjustment to the 2017 load forecast.



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Accuracy of Load Forecast and Variance Analyses



1 **ACCURACY OF LOAD FORECAST AND VARIANCE** 2 **ANALYSES**

3 Provided in the following sections is London Hydro's analysis of the accuracy of the historical
4 load forecast covering 2013 Board Approved Proxy, historical actual results from 2013 to 2015,
5 the 2016 Bridge Year and the 2017 Test Year. The analysis has been completed on the
6 following basis:

- 7 • Distribution Revenue 2013 Board Approved, 2013, 2014 and 2015 Actual
- 8 • Billing Determinants 2013 Board Approved, 2013, 2014 and 2015 Actual,
- 9 • Explanation of Changes 2013 Board Approved, 2013, 2014 and 2015 Actual,
- 10 • Distribution Revenue 2015 Actual, 2016 Forecast and 2017 Proposed,
- 11 • Billing Determinants 2015 Actual, 2016 Forecast and 2017 Proposed,
- 12 • Explanation of Changes 2015 Actual, 2016 Forecast and 2017 Proposed, and
- 13 • Distribution Revenue calculated on the basis of existing rates and proposed rates.

14 London Hydro has completed Appendix 2-IB Customer, Connections, Load Forecast and
15 Revenues Data and Analysis as presented in Exhibit 3 Tab 2 Schedule 1 Attachment 1.1. This
16 is also filed in the live excel OEB Appendix 2. All historical data has been reported as presented
17 in the OEB RRR filings. All historical amounts reflect actual weather conditions in the year and
18 include the unbilled estimates.

19 **DISTRIBUTION REVENUE VARIANCE ANALYSIS** 20 **2013 BOARD APPROVED, 2013/2014/2015 ACTUAL**

21 The following variance analysis has been provided based on London Hydro's materiality
22 threshold per the materiality calculation being noted in Exhibit 1, Section 1.8 of this Application.
23 London Hydro has chosen to use \$365,000 as its basis for variance analysis of Distribution
24 Revenue.



1 Table 3.2.1.1 below shows the variances by rate class for Distribution Revenue. Variances
 2 outside of the materiality threshold are discussed in detail below. Total distribution revenue
 3 amounts tie to those filed in RRR 2.1.7 annually and to the audited financial statements, unless
 4 otherwise noted. London Hydro accrues for unbilled revenue at the end of each period, which is
 5 later reversed and replaced with the actual results.

6 **Table 3.2.1.1: DISTRIBUTION REVENUE VARIANCE ANALYSIS**

Rate Class	2013 BA	2013 Actual	2014 Actual	2015 Actual
Residential	\$ 38,619,056	\$ 39,712,129	\$ 38,986,536	\$ 39,974,345
GS <50 kW	\$ 8,418,703	\$ 8,856,689	\$ 8,704,300	\$ 9,042,131
GS 50 to 4,999 kW	\$ 12,152,706	\$ 11,776,827	\$ 12,031,037	\$ 12,184,887
GS 1,000 to 4,999 kW (Co-Generation)	\$ 244,070	\$ 175,858	\$ 272,919	\$ 304,114
Large Use >5MW	\$ 1,513,888	\$ 1,545,446	\$ 1,502,444	\$ 1,350,081
Street Light	\$ 1,200,532	\$ 1,155,844	\$ 1,231,949	\$ 1,254,474
Sentinel	\$ 49,922	\$ 48,274	\$ 50,311	\$ 47,442
Unmetered Scattered Load	\$ 120,146	\$ 115,600	\$ 133,095	\$ 133,611
Standby Power	\$ 356,442	\$ 399,407	\$ 442,989	\$ 460,144
Total	\$ 62,675,465	\$ 63,786,074	\$ 63,355,579	\$ 64,751,229

Rate Class	2013 BA	2013 Actual	2014 Actual	2015 Actual
Residential		\$ 1,093,073	\$ (725,593)	\$ 987,809
GS <50 kW		\$ 437,986	\$ (152,389)	\$ 337,831
GS 50 to 4,999 kW		\$ (375,879)	\$ 254,210	\$ 153,850
GS 1,000 to 4,999 kW (Co-Generation)		\$ (68,212)	\$ 97,061	\$ 31,195
Large Use >5MW		\$ 31,558	\$ (43,002)	\$ (152,363)
Street Light		\$ (44,688)	\$ 76,105	\$ 22,525
Sentinel		\$ (1,648)	\$ 2,037	\$ (2,869)
Unmetered Scattered Load		\$ (4,546)	\$ 17,495	\$ 516
Standby Power		\$ 42,965	\$ 43,581	\$ 17,156
Total		\$ 1,110,609	\$ (430,495)	\$ 1,395,650

7
 8 Included in London Hydro's 2012 Tariffs of Rates and Charges were two deferral account
 9 recoveries for smart meters and LRAM. These amounts are recognized in distribution revenue
 10 as additional revenue for the first four months of 2013. In addition in London Hydro's 2013
 11 Tariffs of Rates and Charges was a deferral account recovery LRAM which began in May of
 12 2013 and ended in April of 2014. The collection of these recoveries is shown in Table 3.2.1.2
 13 below.



1

Table 3.2.1.2: DEFERRAL ACCOUNT RECOVERIES

2013

Rate Class	Calculated Variance	2012 Smart Meter	2012 LRAM Recovery	2013 LRAM Recovery	Adjusted Variance
Residential	\$ 1,093,073	\$ 1,340,476	\$ 42,736	\$ 10,798	\$ (300,937)
GS <50 kW	\$ 437,986	\$ 172,593	\$ 12,702	\$ 5,738	\$ 246,954
GS 50 to 4,999 kW	\$ (375,879)		\$ 47,481	\$ 113,291	\$ (536,651)
GS 1,000 to 4,999 kW (Co-Generation)	\$ (68,212)				\$ (68,212)
Large Use >5MW	\$ 31,558				\$ 31,558
Street Light	\$ (44,688)				\$ (44,688)
Sentinel	\$ (1,648)				\$ (1,648)
Unmetered Scattered Load	\$ (4,546)				\$ (4,546)
Standby Power	\$ 42,965				\$ 42,965
Total	\$ 1,110,609	\$ 1,513,069	\$ 102,919	\$ 129,826	\$ (635,205)

2014

Rate Class	Calculated Variance	2013 LRAM Recovery	Adjusted Variance
Residential	\$ (725,593)	\$ 50,549	\$ (776,142)
GS <50 kW	\$ (152,389)	\$ 35,201	\$ (187,590)
GS 50 to 4,999 kW	\$ 254,210	\$ 218,496	\$ 35,714
GS 1,000 to 4,999 kW (Co-Generation)	\$ 97,061		\$ 97,061
Large Use >5MW	\$ (43,002)		\$ (43,002)
Street Light	\$ 76,105		\$ 76,105
Sentinel	\$ 2,037		\$ 2,037
Unmetered Scattered Load	\$ 17,495		\$ 17,495
Standby Power	\$ 43,581		\$ 43,581
Total	\$ (430,495)	\$ 304,247	\$ (734,742)

2

3 The following Table 3.2.1.3 shows adjusted amounts which reflect more truly the distribution
 4 revenues from rates.



1

Table 3.2.1.3 : ADJUSTED DISTRIBUTION REVENUE VARIANCE ANALYSIS

Rate Class	2013 BA	2013 Adj Actual	2014 Adj Actual	2015 Actual
	A	B	C	D
Residential	\$ 38,619,056	\$ 38,318,119	\$ 38,935,987	\$ 39,974,345
GS <50 kW	\$ 8,418,703	\$ 8,665,657	\$ 8,669,099	\$ 9,042,131
GS 50 to 4,999 kW	\$ 12,152,706	\$ 11,616,055	\$ 11,812,540	\$ 12,184,887
GS 1,000 to 4,999 kW (Co-Generation)	\$ 244,070	\$ 175,858	\$ 272,919	\$ 304,114
Large Use >5MW	\$ 1,513,888	\$ 1,545,446	\$ 1,502,444	\$ 1,350,081
Street Light	\$ 1,200,532	\$ 1,155,844	\$ 1,231,949	\$ 1,254,474
Sentinel	\$ 49,922	\$ 48,274	\$ 50,311	\$ 47,442
Unmetered Scattered Load	\$ 120,146	\$ 115,600	\$ 133,095	\$ 133,611
Standby Power	\$ 356,442	\$ 399,407	\$ 442,989	\$ 460,144
Total	\$ 62,675,465	\$ 62,040,260	\$ 63,051,332	\$ 64,751,229

Rate Class	2013 BA	2013 Adj Actual	2014 Adj Actual	2015 Actual	2015 Actual 2013 BA
		B - A	C - B	D - C	D - A
Residential		\$ (300,937)	\$ 617,868	\$ 1,038,358	\$ 1,355,289
GS <50 kW		\$ 246,954	\$ 3,442	\$ 373,032	\$ 623,428
GS 50 to 4,999 kW		\$ (536,651)	\$ 196,486	\$ 372,346	\$ 32,181
GS 1,000 to 4,999 kW (Co-Generation)		\$ (68,212)	\$ 97,061	\$ 31,195	\$ 60,044
Large Use >5MW		\$ 31,558	\$ (43,002)	\$ (152,363)	\$ (163,807)
Street Light		\$ (44,688)	\$ 76,105	\$ 22,525	\$ 53,942
Sentinel		\$ (1,648)	\$ 2,037	\$ (2,869)	\$ (2,480)
Unmetered Scattered Load		\$ (4,546)	\$ 17,495	\$ 516	\$ 13,465
Standby Power		\$ 42,965	\$ 43,581	\$ 17,156	\$ 103,702
Total		\$ (635,205)	\$ 1,011,073	\$ 1,699,897	\$ 2,075,764

Rate Class	2013 BA	2013 Adj Actual	2014 Adj Actual	2015 Actual	2015 Actual 2013 BA
		B - A	C - B	D - C	D - A
Residential		-0.78%	1.61%	2.67%	3.5%
GS <50 kW		2.93%	0.04%	4.30%	7.4%
GS 50 to 4,999 kW		-4.42%	1.69%	3.15%	0.3%
GS 1,000 to 4,999 kW (Co-Generation)		-27.95%	55.19%	11.43%	24.6%
Large Use >5MW		2.08%	-2.78%	-10.14%	-10.8%
Street Light		-3.72%	6.58%	1.83%	4.5%
Sentinel		-3.30%	4.22%	-5.70%	-5.0%
Unmetered Scattered Load		-3.78%	15.13%	0.39%	11.2%
Standby Power		12.05%	10.91%	3.87%	29.1%
Total		-1.01%	1.63%	2.70%	3.3%

2

3 Table 3.2.1.4 below details the differences by year for billing determinants. 2013 OEB approved
 4 quantities were derived from Settlement Table # 4: Load Forecast as found on Page 20 of the
 5 2013 Board Approved Settlement Agreement. Annual billing quantities were derived from the
 6 OEB Annual RRR reporting. Customer/Connections are the year-end values as reported in the
 7 RRR filings.



1

Table 3.2.1.4: COMPARISON OF Billing Determinants

Rate Class	2013 Board Approved			2013 Actual			Difference		
	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW
Residential	138,061	1,085,576,654	-	137,191	1,091,107,757	-	(870)	5,531,102	-
GS <50 kW	12,111	398,880,653	-	12,084	400,291,647	-	(27)	1,410,994	-
GS 50 to 4,999 kW	1,661	1,570,040,805	3,932,952	1,639	1,467,487,159	3,780,791	(22)	(102,553,646)	(152,161)
GS 1,000 to 4,999 kW (Co-Generation)	3	40,595,514	43,793	-	43,663,823	68,938	(3)	3,068,309	25,145
Large Use >5MW	3	196,152,208	390,735	3	179,131,186	386,138	0	(17,021,022)	(4,597)
Street Light	34,842	23,918,927	67,093	35,034	24,330,710	68,984	192	411,783	1,891
Sentinel	674	775,203	2,114	653	772,541	2,099	(21)	(2,662)	(15)
Unmetered Scattered Load	1,521	4,932,393	-	1,508	5,630,160	-	(13)	697,767	-
Standby Power	-	-	154,800	-	-	154,800	-	-	-
Total	188,875	3,320,872,357	4,591,487	188,112	3,212,414,983	4,461,750	(763)	(108,457,374)	(129,737)

Rate Class	2013 Actual			2014 Actual			Difference		
	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW
Residential	137,191	1,091,107,757	-	138,568	1,096,195,854	-	1,377	5,088,098	-
GS <50 kW	12,084	400,291,647	-	12,368	405,335,151	-	284	5,043,504	-
GS 50 to 4,999 kW	1,639	1,467,487,159	3,780,791	1,609	1,480,087,784	3,746,991	(30)	12,600,625	(33,800)
GS 1,000 to 4,999 kW (Co-Generation)	-	43,663,823	68,938	-	36,984,669	72,831	-	(6,679,154)	3,893
Large Use >5MW	3	179,131,186	386,138	3	174,829,076	377,243	-	(4,302,110)	(8,895)
Street Light	35,034	24,330,710	68,984	35,206	24,496,241	68,713	172	165,531	(271)
Sentinel	653	772,541	2,099	646	738,785	2,005	(7)	(33,756)	(94)
Unmetered Scattered Load	1,508	5,630,160	-	1,523	5,568,049	-	15	(62,111)	-
Standby Power	-	-	154,800	-	-	154,800	-	-	-
Total	188,112	3,212,414,983	4,461,750	189,923	3,224,235,609	4,422,583	1,811	11,820,626	(39,167)

Rate Class	2014 Actual			2015 Actual			Difference		
	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW
Residential	138,568	1,096,195,854	-	139,861	1,084,665,542	-	1,293	(11,530,312)	-
GS <50 kW	12,368	405,335,151	-	12,485	399,647,918	-	117	(5,687,233)	-
GS 50 to 4,999 kW	1,609	1,480,087,784	3,746,991	1,598	1,465,928,292	3,725,595	(11)	(14,159,492)	(21,396)
GS 1,000 to 4,999 kW (Co-Generation)	-	36,984,669	72,831	-	38,418,337	75,192	-	1,433,668	2,361
Large Use >5MW	3	174,829,076	377,243	3	137,445,055	284,637	-	(37,384,021)	(92,606)
Street Light	35,206	24,496,241	68,713	35,359	24,640,359	69,126	153	144,118	413
Sentinel	646	738,785	2,005	627	738,970	2,010	(19)	185	5
Unmetered Scattered Load	1,523	5,568,049	-	1,522	5,522,828	-	(1)	(45,221)	-
Standby Power	-	-	154,800	-	-	154,800	-	-	-
Total	189,923	3,224,235,609	4,422,583	191,455	3,157,007,302	4,311,360	1,532	(67,228,307)	(111,223)

2

3 The following Table 3.2.1.5 is to show the heating and cooling degree days for the city of
 4 London and the 10 year normalized average (2006-2015). This is used to explain the impact of
 5 weather on the annual reporting results.



1

Table 3.2.1.5: Heating and cooling Degree Days

HDD							
	Norm10	2010	2011	2012	2013	2014	2015
1	719.0	733.1	798.8	644.8	657.4	843.9	812.9
2	685.7	633.4	677.8	553.0	657.0	790.0	872.9
3	555.3	450.2	599.6	331.1	581.9	716.8	640.1
4	318.3	236.4	330.4	334.6	362.2	353.8	336.6
5	135.4	121.1	126.4	87.2	122.2	142.5	104.7
6	29.3	23.6	27.0	28.2	41.1	19.7	29.7
7	8.0	5.6	0.0	0.0	7.1	21.5	7.0
8	10.9	6.0	1.5	7.8	18.4	14.5	14.0
9	76.6	87.9	71.9	103.4	94.9	86.2	34.6
10	249.9	239.5	234.6	250.5	226.6	247.1	254.9
11	420.8	413.6	347.9	420.4	492.1	503.7	353.2
12	597.8	713.5	548.4	535.9	687.7	567.5	447.8
HDD Total	3,807.1	3,663.9	3,764.3	3,296.9	3,948.6	4,307.2	3,908.4

CDD							
	Norm10	2010	2011	2012	2013	2014	2015
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.2	0.0	0.0	2.2	0.0	0.0	0.0
4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
5	20.6	34.9	17.4	28.5	27.0	12.2	34.9
6	55.0	57.5	39.6	81.7	52.7	71.9	30.4
7	102.0	129.7	160.9	161.0	112.9	47.6	76.4
8	74.5	121.7	82.9	79.6	63.4	53.4	61.6
9	25.6	24.1	29.0	27.7	26.0	17.6	54.2
10	2.6	0.0	0.0	0.7	2.6	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CDD Total	280.8	367.9	329.8	381.4	284.6	202.7	257.5

2



1 **2013 Actual versus 2013 OEB Approved**

2 2013 Distribution revenues were \$635 k lower than forecasted with residential \$301 k and
3 GS>50 kW \$537 k lower than forecasted and GS<50 kW \$247 k being above forecast. The
4 driving force for the lower overall recovery is explained as difference between the January to
5 April billing at the previous 2012 rates whereas the forecast is based on the full calendar year at
6 the new rates.

7 **2014 Actual versus 2013 Actual**

8 2014 Distribution revenues were \$1.0M higher than the 2013 Actual with residential \$618 k
9 higher. The driving force for the higher overall increase would be the annual IRM increase of
10 1.55% in May 2014. The driving force for the higher residential recovery is the increase of 1377
11 new customers. 2014 overall also experienced colder than normal temperatures with the
12 heating degree days being 4,307.2 versus a 10 year normal of 3,807.1. As discussed in our
13 Load Forecast in Exhibit 3 Tab 1 Schedule 2 on January 1, 2014 London Hydro transferred a
14 net of 44 customers from GS>50 kW rate class to the GS<50 kW rate class. It is estimated that
15 each of the net transfers results in lost revenue of \$1,500 per year or \$66 K in 2014.

16 **2015 Actual versus 2014 Actual**

17 2015 Distribution revenues were \$1.7M (2.7%) higher than the 2014 Actual with residential \$1.0
18 M higher. The driving force for the higher overall increase would be the annual IRM increase of
19 1.45% in May 2015. The driving force for the higher residential recovery is the increase of 1293
20 new customers. 2015 overall also experienced a slightly warmer summer than 2014 with the
21 cooling degree days being 257.5 with 2014 being 202.7. As discussed in our Load Forecast in
22 Exhibit 3 Tab 1 Schedule 2 on January 1, 2015 London Hydro transferred a net of 32 customers
23 from GS>50 kW rate class to the GS<50 kW rate class. It is estimated that each of the net
24 transfers results in lost revenue of \$1,500 per year or \$48 K in 2015.



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1 **DISTRIBUTION REVENUE VARIANCE ANALYSIS**
2 **2015 ACTUAL, 2016 FORECAST, 2017 PROPOSED**

3 Table 3.2.1.6 below shows the 2015 Actual, 2016 Forecasted, and 2017 Proposed revenues
4 and comparisons.



1

Table 3.2.1.6: Comparison of Forecasted Revenues

Rate Class	2015 Actual	2016 Bridge Year	2017 Test Year Pro
	D	E	F
Residential	\$ 39,974,345	\$ 40,872,109	\$ 43,183,365
GS <50 kW	\$ 9,042,131	\$ 8,905,851	\$ 9,148,828
GS 50 to 4,999 kW	\$ 12,184,887	\$ 12,252,321	\$ 13,042,889
GS 1,000 to 4,999 kW (Co-Generation)	\$ 304,114	\$ 279,071	\$ 300,867
Large Use >5MW	\$ 1,350,081	\$ 655,138	\$ 626,170
Street Light	\$ 1,254,474	\$ 1,226,014	\$ 1,214,842
Sentinel	\$ 47,442	\$ 48,171	\$ 50,778
Unmetered Scattered Load	\$ 133,611	\$ 137,167	\$ 147,580
Standby Power	\$ 460,144	\$ 471,923	\$ 496,922
Total	\$ 64,751,229	\$ 64,847,765	\$ 68,212,243

0.04

Rate Class	2015 Actual	2016 Forecast	2017 Forecast
		E - D	F - E
Residential		\$ 897,764	\$ 2,311,256
GS <50 kW		\$ (136,280)	\$ 242,977
GS 50 to 4,999 kW		\$ 67,435	\$ 790,567
GS 1,000 to 4,999 kW (Co-Generation)		\$ (25,043)	\$ 21,796
Large Use >5MW		\$ (694,943)	\$ (28,967)
Street Light		\$ (28,460)	\$ (11,172)
Sentinel		\$ 729	\$ 2,608
Unmetered Scattered Load		\$ 3,556	\$ 10,412
Standby Power		\$ 11,779	\$ 24,999
Total		\$ 96,536	\$ 3,364,477

0.00

(0.04)

Rate Class	2015 Actual	2016 Forecast	2017 Forecast
		E - D	F - E
Residential		2.25%	5.65%
GS <50 kW		-1.51%	2.73%
GS 50 to 4,999 kW		0.55%	6.45%
GS 1,000 to 4,999 kW (Co-Generation)		-8.23%	7.81%
Large Use >5MW		-51.47%	-4.42%
Street Light		-2.27%	-0.91%
Sentinel		1.54%	5.41%
Unmetered Scattered Load		2.66%	7.59%
Standby Power		2.56%	5.30%
Total		0.15%	5.19%

2



1 Table 3.2.1.7 below shows the 2015 Actual, 2016 Forecasted, and 2017 Proposed billing
 2 determinants and comparison.

3 **Table 3.2.1.7: Comparison of Forecasted Billing determinants**

Rate Class	2015 Actual			2016 Forecast			Difference		
	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW
Residential	139,861	1,084,665,542	-	141,179	1,078,859,393	-	1,318	(5,806,149)	-
GS <50 kW	12,485	399,647,918	-	12,623	386,610,590	-	138	(13,037,328)	-
GS 50 to 4,999 kW	1,594	1,465,928,292	3,725,595	1,570	1,496,821,265	3,803,932	(24)	30,892,973	78,337
GS 1,000 to 4,999 kW (Co-Generation)	4	38,418,337	75,192	4	36,474,647	65,844	-	(1,943,690)	(9,348)
Large Use >5MW	3	137,445,055	284,637	1	97,199,885	187,110	(2)	(40,245,170)	(97,527)
Street Light	35,359	24,640,359	69,126	35,570	22,063,430	61,778	211	(2,576,929)	(7,348)
Sentinel	627	738,970	2,010	617	722,507	1,951	(10)	(16,463)	(59)
Unmetered Scattered Load	1,522	5,522,828	-	1,534	5,493,254	-	12	(29,574)	-
Standby Power	-	-	154,800	-	-	154,800	-	-	-
Total	191,455	3,157,007,302	4,311,360	193,098	3,124,244,971	4,275,415	1,643	(32,762,331)	(35,945)

Rate Class	2016 Forecast			2017 Forecast			Difference		
	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW	Cust/Conn	kWh	kW
Residential	141,179	1,078,859,393	-	142,509	1,068,671,798	-	1,330	(10,187,595)	-
GS <50 kW	12,623	386,610,590	-	12,749	371,911,863	-	126	(14,698,727)	-
GS 50 to 4,999 kW	1,570	1,496,821,265	3,803,932	1,561	1,486,650,047	3,778,018	(9)	(10,171,219)	(25,914)
GS 1,000 to 4,999 kW (Co-Generation)	4	36,474,647	65,844	4	34,191,555	65,844	-	(2,283,092)	-
Large Use >5MW	1	97,199,885	187,110	1	82,923,505	159,628	-	(14,276,380)	(27,482)
Street Light	35,570	22,063,430	61,778	35,912	19,502,488	54,607	342	(2,560,942)	(7,171)
Sentinel	617	722,507	1,951	599	706,221	1,907	(18)	(16,286)	(44)
Unmetered Scattered Load	1,534	5,493,254	-	1,537	5,464,035	-	3	(29,219)	-
Standby Power	-	-	154,800	-	-	154,800	-	-	-
Total	193,098	3,124,244,971	4,275,415	194,872	3,070,021,511	4,214,804	1,774	(54,223,460)	(60,611)

4 **2016 Forecast versus 2015 Actual**

5
 6 London Hydro anticipates a very modest increase in distribution revenue for the year 2016. On
 7 January 1, 2016 London Hydro saw the transfer of two large users to the GS>50 kW class. One
 8 large user has discontinued production and the other was transferred due to reduced load as a
 9 result of our annual load review. This has resulted in a large reduction in Large Use revenue. In
 10 addition the Street Lights revenue is also declining as a result of a CDM initiative converting
 11 6500 lamps to LED in the beginning in December 2015 and completed in May 2016. In May
 12 2016 rates have been increased by the annual IRM application by 1.95%¹. Residential and
 13 GS<50 kW customer accounts continue to grow however kWh volumes are anticipated to
 14 decline with CDM initiatives. 2016 was the first year of the four year OEB initiative to move the
 15 residential class to fully fixed rates hence the continuing volumetric decline will have reduced

¹ London Hydro has applied the May 1, 2016 rates against the full year 2016 load forecast for comparative purposes here and would suggest this resulting revenue value would be lower due to the lower rates actually applied for January 1 to April 30, 2016.



1 impacts on revenues on an ongoing basis. As discussed in our Load Forecast in Exhibit 3 Tab 1
 2 Schedule 2 on January 1, 2016 London Hydro transferred a net of 17 customers from GS>50
 3 kW rate class to the GS<50 kW rate class. It is estimated that each of the net transfers results in
 4 lost revenue of \$1,500 per year or \$26 K in 2016.

5 **2017 Proposed versus 2016 Forecast**

6 As explained more fully in the revenue deficiency discussion in Exhibit 6 London Hydro is
 7 requesting a 5.3% (\$3.5 M) adjustment to distribution rates. This change is the driving force
 8 behind the increase in 2017 revenues over 2016. The detail on changes between the rate
 9 classes is further explained in the cost allocation discussion in Exhibit 7.

10 **DISTRIBUTION REVENUE VARIANCE ANALYSIS**
 11 **2017 AT CURRENT VS 2017 PROPOSED**

12 Table 3.2.1.8 below shows the 2017 forecasted revenues at current rates vs 2017 proposed
 13 revenues and comparison.

14 **Table 3.2.1.8: Comparison Test Year at current rates vs proposed rates**

Rate Class	2017 Current Rates	2017 Proposed Rates	2017 Change \$'s	2017 Change %'s
	F			
Residential	\$ 41,010,902	\$ 43,183,365	\$ 2,172,463	5.30%
GS <50 kW	\$ 8,801,746	\$ 9,148,828	\$ 347,082	3.94%
GS 50 to 4,999 kW	\$ 12,227,162	\$ 13,042,889	\$ 815,727	6.67%
GS 1,000 to 4,999 kW (Co-Generation)	\$ 279,071	\$ 300,867	\$ 21,796	7.81%
Large Use >5MW	\$ 594,669	\$ 626,170	\$ 31,501	5.30%
Street Light	\$ 1,171,689	\$ 1,214,842	\$ 43,154	3.68%
Sentinel	\$ 46,914	\$ 50,778	\$ 3,865	8.24%
Unmetered Scattered Load	\$ 136,716	\$ 147,580	\$ 10,864	7.95%
Standby Power	\$ 471,923	\$ 496,922	\$ 24,999	5.30%
Total	\$ 64,740,792	\$ 68,212,243	\$ 3,471,451	5.36%

15
 16
 17 This is explained more fully in Exhibit 7. London Hydro is requesting a 5.3% (\$3.5 M)
 18 adjustment to distribution rates.



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1 **OTHER INFORMATION**

- 2 London Hydro has completed Appendix 2-IB Customer, Connections, Load Forecast and
- 3 Revenues Data and Analysis, which is filed in excel live format and attached as a pdf file in
- 4 Exhibit 3 Tab 2 Schedule 1 Attachment 1.1



File Number:EB-2016-0091

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ATTACHMENT 1 OF 1
APPENDIX 2-IB CUSTOMER, CONNECTIONS, LOAD
FORECAST AND REVENUES DATA AND ANALYSIS

File Number: EB-2016-0091

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

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

	2013 Board Approved	2013	2014	2015	2016 Bridge	2017 Test
Residential						
# of Customers	138,061	136,671	138,010	139,861	141,179	142,509
kWh	1,085,576,654	1,091,107,757	1,096,195,854	1,084,665,542	1,078,859,393	1,068,671,798
kW						
Variance Analysis						
# of Customers		-1.01%	-0.04%	1.30%	2.26%	3.22%
kWh		0.51%	0.98%	-0.08%	-0.62%	-1.56%
kW		0.00%	0.00%	0.00%	0.00%	0.00%
General Service < 50 kW						
# of Customers	12,111	12,141	12,268	12,504	12,623	12,749
kWh	398,880,653	400,291,647	405,335,151	399,647,918	386,610,590	371,911,863
kW						
Variance Analysis						
# of Customers		0.25%	1.29%	3.25%	4.23%	5.27%
kWh		0.35%	1.62%	0.19%	-3.08%	-6.76%
kW		0.00%	0.00%	0.00%	0.00%	0.00%
General Service > 50 kW						
# of Customers	1,661	1,608	1,590	1,575	1,570	1,561
kWh	1,570,040,805	1,485,615,093	1,499,515,193	1,484,614,973	1,496,821,265	1,486,650,047
kW	3,932,952	3,840,563	3,810,876	3,784,947	3,803,932	3,778,018
Variance Analysis						
# of Customers		-3.18%	-4.29%	-5.16%	-5.47%	-6.01%
kWh		-5.38%	-4.49%	-5.44%	-4.66%	-5.31%
kW		-2.35%	-3.10%	-3.76%	-3.28%	-3.94%
Co-Gen						
# of Customers	3	3	4	4	4	4
kWh	40,595,514	43,072,446	36,488,426	38,831,481	36,474,647	34,191,555
kW	198,593	223,738	227,631	229,992	220,644	220,644
Variance Analysis						
# of Customers		3.66%	20.94%	38.22%	38.22%	38.22%
kWh		6.10%	-10.12%	-4.35%	-10.15%	-15.78%
kW		12.66%	14.62%	15.81%	11.10%	11.10%
Large Use						
# of Customers	3	1	1	1	1	1
kWh	196,152,208	121,362,031	117,379,515	111,335,382	97,199,885	82,923,505
kW	390,735	234,157	229,583	212,176	187,110	159,628
Variance Analysis						
# of Customers		-66.67%	-66.67%	-66.67%	-66.67%	-66.67%
kWh		-38.13%	-40.16%	-43.24%	-50.45%	-57.72%
kW		-40.07%	-41.24%	-45.70%	-52.11%	-59.15%
Street Lighting						
# of Connections	34,842	34,612	34,980	35,231	35,570	35,912
kWh	23,918,927	24,330,710	24,496,241	24,640,359	22,063,430	19,502,488
kW	67,093	68,984	68,713	69,126	61,778	54,607
Variance Analysis						
# of Connections		-0.66%	0.40%	1.12%	2.09%	3.07%
kWh		1.72%	2.41%	3.02%	-7.76%	-18.46%
kW		2.82%	2.42%	3.03%	-7.92%	-18.61%

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

Sentinel Lighting						
# of Connections	674	681	660	636	617	599
kWh	775,203	772,541	738,785	738,971	722,507	706,221
kW	2,114	2,099	2,005	2,009	1,951	1,907

Variance Analysis						
# of Connections		0.98%	-2.04%	-5.70%	-8.47%	-11.14%
kWh		-0.34%	-4.70%	-4.67%	-6.80%	-8.90%
kW		-0.71%	-5.16%	-4.95%	-7.71%	-9.79%

USL						
# of Connections	1,521	1,528	1,534	1,531	1,534	1,537
kWh	4,932,393	5,630,160	5,568,049	5,522,828	5,493,254	5,464,035
kW						

Variance Analysis						
# of Connections		0.48%	0.90%	0.68%	0.88%	1.07%
kWh		14.15%	12.89%	11.97%	11.37%	10.78%
kW		0.00%	0.00%	0.00%	0.00%	0.00%

Totals

Customers / Connections	188,875	187,243	189,046	191,343	193,098	194,872
kWh	3,320,872,357	3,172,182,384	3,185,717,215	3,149,997,453	3,124,244,971	3,070,021,511
kW from applicable classes	4,591,487	4,369,541	4,338,809	4,298,250	4,275,415	4,214,804

Totals - Variance

Customers / Connections		-0.86%	0.09%	1.31%	2.24%	3.18%
kWh		-4.48%	-4.07%	-5.15%	-5.92%	-7.55%
kW from applicable classes		-4.83%	-5.50%	-6.39%	-6.88%	-8.20%



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Exhibit 3

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Other Revenues



1 OTHER REVENUES

2 Overview

3 Other revenue relates to all utility revenues other than the distribution and costs of power
4 revenues – in other words, it is revenue that is distribution in nature but that is not sourced from
5 distribution rates. London Hydro classifies other revenues into the following categories, which
6 reflect the same categories used in London Hydro’s 2013 cost of service application:

- 7 • Late Payment Charges,
- 8 • Specific Service Charges,
- 9 • Retailer Service Charges,
- 10 • Other Regulated Revenue, and
- 11 • Interest Revenue

12 This Exhibit will reflect the revenue associated with each category or sub-category from years
13 2013 (last rebasing year) to 2017 (Test Year). Variances by each sub-category of other
14 revenue are provided.

15 Late Payment Charges

16 London Hydro proposes to continue to charge 1.5 percent per month (19.56 percent annually)
17 for late payments. This would be applied to all accounts not paid by the due date. Bills are due
18 and payable sixteen days from the mailing date, plus grace days to allow for mailing and
19 payment processing delays. A late payment charge (“LPC”) is levied on any bill, excluding final
20 bills, with no minimum set. The charge is based on the average daily balance outstanding



1 including all charges, except deposits outstanding between the late payment due date and the
2 LPC processing date.

3 **Specific Service Charges**

4 London Hydro charges user fees for certain services. Some of these services are provided at
5 the customer's request, such as setting up an account. Others result from London Hydro's
6 business operations, such as collection fees resulting from non-payment of a customer bill.
7 London Hydro does not propose any changes to these specific service charges.

8 A number of London Hydro's specific service charges, designed to recover the costs of
9 providing these services, are described in the following sections.

10 **Arrears Certificates**

11 This is a charge levied to research and issue a certificate of arrears per service address. This is
12 typically provided to lawyers during a property purchase.

13 **Collection Charges**

14 A charge is levied to cover the additional costs for hand-delivering a disconnection notice to
15 customers who have excessive payment arrears.

16 **Reconnection Charges**

17 A charge is levied to cover the additional costs of reconnecting a customer following a
18 disconnection for arrears reasons. Different amounts are charged based on whether the
19 reconnection is done at the pole or at the meter and if the reconnection is completed during
20 regular hours or after regular hours.

21 **Account Setup Charge**

22 When a customer establishes a new account, a charge is applied to their first bill to cover the
23 cost of setting up the new account.



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1 **Temporary Service Install and Remove Overhead – No Transformer**

2 This is a charge for temporarily disconnecting then reconnecting electrical service so that
3 construction or maintenance can be completed.

4 **Credit Reference/Credit Check**

5 Customers opening an account may qualify for a waiver on a security deposit based on a
6 satisfactory credit check. This credit check is done at the customer's expense.

7 **Returned Payment Charge**

8 This charge is applied to a customer's account for each payment that cannot be processed.

9 **Request for Other Billing Information**

10 This charge is applied to a customer's account to provide additional information such as a letter
11 of reference of income tax letter.

12 **Standby Charge**

13 Standby charges are rates paid by customers to receive power from the grid only at times when
14 their distributed generation system is unavailable (during routine maintenance, unplanned
15 outages or supplemental power requirements).

16 **Meter Test Charge**

17 Customers who believe that their meter is reading incorrectly may request meter verification by
18 Measurement Canada. This charge is applied to a customer's account if the Measurement
19 Canada report indicates that the meter was reading correctly.

20 **Manual Interval Data Collection Charge**

21 This charge is applied to a customer with an interval meter when the meter read cannot be
22 completed over the phone line, which may not be in working order or is not properly installed. It
23 is the customer's responsibility to maintain these phone lines.



1 **Cellular Meter Read Charge**

2 London Hydro is proposing to introduce a new specific service charge of \$30.00 for customers
3 electing to cellular communication based interval meters installed. This is discussed in more
4 detail in Exhibit 8 Tab 7 Schedule 2.

5 **Retail Service Charges**

6 Retail Service Charges include a standard charge, a monthly fixed charge, a monthly variable
7 charge, a standard distributor consolidated billing charge, a request fee and a processing fee.
8 Each is described in the following section.

9 **Standard Charge**

10 This is a one-time charge, per retailer, to establish the service agreement between the
11 distributor and the retailer.

12 **Monthly Fixed Charge**

13 This is a flat monthly charge billed to each active energy retailer for each of their customers.

14 **Monthly Variable Charge**

15 This is a variable monthly charge billed to each active energy retailer for each of their
16 customers.

17 **Standard Distributor Consolidated Billing Charge**

18 This is a variable monthly charge billed to each active energy retailer for each of their
19 customers.

20 **Request Fee**

21 This is a fee for each customer request, and it is applied to the requesting party's account.



1 **Processing Fee**

2 A processing fee per request is applied to the requesting party's account.

3 **Other Regulated Revenue**

4 Other Regulated Revenue includes Standard Supply Service ("SSS") administration charges,
5 discounts earned on payment terms, microFIT fees, proceeds from the sale of scrap, stale-
6 dated cheque write-off, and other miscellaneous services revenue. Each of these is discussed
7 in more detail below.

8 **SSS Administration Charge**

9 London Hydro proposes to continue the charge of \$0.25 per customer per month for all
10 customers that receive their electricity commodity from the default, or standard supply service.

11 **microFIT Charge**

12 London Hydro currently applies a fixed monthly charge of \$5.40 per month to the microFIT
13 generator rate class for the administrative costs associated with supporting microFIT initiatives.
14 The rate is an OEB-approved province-wide charge that reflects the Board's determination of
15 the province-wide average cost for all distributors as per the Board's letter, *Update to Fixed*
16 *Monthly Charge for microFIT Generator Service Classification Board*, of September 20, 2012.
17 As discussed further in Exhibit 8 Tab 1 Schedule 1 London Hydro is proposing the elimination of
18 this customer class and transferring these customers to the GS<50 kW class.

19 **Pole Rental**

20 This is a specific charge for access to London Hydro's power poles by other organizations, such
21 as phone and cable companies.



1 **Discounts Earned on Payment Terms**

2 London Hydro earns a discount from select suppliers by paying invoices before a specified term
3 date (for example 2%, 10 days, net 30). This amount of income reflects the discount earned
4 from these suppliers.

5 **Proceeds from the Sale of Scrap**

6 London Hydro sells scrap metal and other leftover residual materials after the completion of
7 projects.

8 **Stale-Dated Cheque Write-off**

9 Cheques which have not been cashed by a customer after a two-year period are placed in
10 income by London Hydro. This is primarily related to final billing of customer accounts with a
11 credit balance where the customer cannot be located.

12 **Capital Usage Charge**

13 These are charges to affiliate companies for the use of assets owned by London Hydro. In
14 London Hydro's case, this refers primarily to administrative building space rental.

15 **Proceeds from Sale of Fixed Assets**

16 This includes revenues from the sale of retired assets such as vehicles and other equipment.

17 **Interest Revenue**

18 Interest revenue includes interest on cash and other short-term investments. Interest expense
19 relating to deferral and variance accounts has been excluded for rate-making purposes.



1 OTHER OPERATING REVENUES

2 The following table summarizes London Hydro’s other revenues, included in total revenue
 3 requirement. Detailed discussions of the accounts in this summary table follow.

USofA	Account Name	2013 Board Approved	2013 Actual (CGAAP)	2014 Actual (CGAAP)	2014 Actual (MIFRS)	2015 Actual (MIFRS)	2016 Bridge (MIFRS)	2017 Test (MIFRS)
4082	Retail Services Revenues	155,000	119,353	104,398	104,398	92,212	82,000	73,000
4084	Service Transaction Requests (STR) Revenues	8,000	4,180	2,745	2,745	2,951	3,000	3,000
4086	SSS Administration Revenue	405,000	422,537	433,330	433,330	439,506	448,000	455,000
4210	Rent from Electric Property	466,000	487,213	508,751	508,751	520,595	571,200	584,200
4225	Late Payment Charges	1,133,000	1,454,009	1,739,022	1,739,022	1,815,609	1,932,000	1,967,000
4235	Miscellaneous Service Revenues	839,000	804,820	1,082,903	1,082,903	800,275	869,000	904,900
4235	Microfit Fees	7,900	8,978	11,464	11,464	13,684	16,900	-
4235	Miscellaneous Service Revenues (recorded as credits in 5330 expenses)	667,000	681,510	691,645	691,645	693,806	702,000	714,000
4245	Government and Other Assistance Directly Credited to Income	-	-	-	20,811	78,721	167,569	219,919
4330	Costs and Expenses of Merchandising, Jobbing, Etc.	2,763	2,031	(498)	(498)	78,254	25,000	30,000
4355	Gain on Disposition of Utility and Other Property	128,000	174,516	171,938	171,938	161,676	144,000	147,000
4390	Miscellaneous Non-Operating Income	216,575	499,889	536,878	536,878	326,330	411,574	418,600
4405	Interest and Dividend Income	289,329	187,678	145,545	145,545	184,100	165,471	161,545
	TOTAL	4,317,567	4,846,714	5,428,120	5,448,931	5,207,716	5,537,714	5,678,164
4235	Less: amounts recorded in account 5330 as credits to expense	(667,000)	(681,510)	(691,645)	(691,645)	(693,806)	(702,000)	(714,000)
	TOTAL REVENUE OFFSETS	3,650,567	4,165,204	4,736,476	4,757,287	4,513,910	4,835,714	4,964,164
OTHER DISTRIBUTION REVENUE								
	Late Payment Charges	1,133,000	1,454,009	1,739,022	1,739,022	1,815,609	1,932,000	1,967,000
	Specific Service Charges	846,900	813,798	1,094,367	1,094,367	813,958	885,900	904,900
	Other Distribution Revenue	1,670,667	1,897,397	1,903,086	1,923,897	1,884,344	2,017,814	2,092,264
		3,650,567	4,165,204	4,736,476	4,757,287	4,513,910	4,835,714	4,964,164

5 4082 – Retail Services Revenue

6 The revenues in this account are comprised of the monthly regulated service fees that are
 7 charged to retailers and their customers for the provision of retailer contract maintenance and
 8 consolidated billing services. This revenue is driven by the monthly number of retailer
 9 customers and number of retailers. The following indicate the annual trends for the following
 10 periods:

- 11 • December 31, 2013: 16 retailers, 11,168 retailer customers
- 12 • December 31, 2014: 18 retailers, 9,748 retailer customers



- 1 • December 31, 2015: 17 retailers, 8,420 retailer customers

2 The variance between 2013 Board Approved and 2013 Actuals is a result of a more rapid
3 decline in retailer customers than was anticipated at the time of the 2013 COS.

4 The 2016 and 2017 forecasted revenues of \$82,000 and \$73,000 respectively are 11% and
5 21% lower than the 2015 actual amount of \$92,212 and reflect the fact that the number of
6 retailer customers has steadily been declining over the past number of years and in 2015 alone
7 saw a 14% decrease.

8 **4084 – Service Transaction Requests – STR Revenues**

9 The revenue in the account is comprised of the regulated service transaction (“STR”) “request”
10 and “processing” fees that are chargeable to retailers for additions, removals or modifications to
11 their customer records. Annual revenue volumes are driven by the level of activity associated
12 with customer movements to or from retailers. The fluctuation in revenue is primarily customer
13 driven, influenced by factors such as consumer awareness and retailer marketing in the area.
14 Since retailer contracts are generally 3 or 5 year terms, expiry and renewal transactions would
15 not follow a particular annual trend.

16 **4086 – SSS Administration Revenue**

17 The revenue in this account is comprised of the monthly regulated Standard Supply Service
18 administration charge that is billed to customers who have elected to receive default energy
19 supply from London Hydro. The monthly charge is \$0.25 per customer and monthly and yearly
20 revenues are driven by the number of customers receiving default energy supply.

21 The variance between 2013 Board Approved and 2013 Actuals is as a result of a more rapid
22 decline in retailer customers, as discussed above, resulting in a greater number of SSS
23 customers than was anticipated at the time of the 2013 COS. The monthly retailer admin
24 charge per customer is \$0.50 vs. a SSS admin charge of \$0.25 per customer – therefore, as
25 expected and shown in the summary table, the positive variance in OEB 4086 offsets
26 approximately 50% of the negative variance in OEB 4082.



1 The projected increase for 2017 is due to the quantity of SSS customers, influenced both by
 2 overall customer growth (new customers) and by an increased number of retailer customers
 3 switching to London Hydro supply. Between 2014 and 2015, there was a 1.43% increase in
 4 SSS administration revenue, and there is a further 1.93% and 3.53% increase over 2015
 5 actuals for 2016 and 2017, respectively.

6 **4210 – Rent from Electric Property**

7 Rent from Electric Property is composed of pole rentals, administrative space rental, and duct
 8 rentals.

Item	2013 Board Approved	2013 Actual (CGAAP)	2014 Actual (CGAAP)	2014 Actual (MIFRS)	2015 Actual (MIFRS)	2016 Bridge (MIFRS)	2017 Test (MIFRS)
Revenues	\$ 466,000	\$ 487,213	\$ 508,751	\$ 508,751	\$ 520,595	\$ 571,200	\$ 584,200
Pole rentals	386,000	374,942	394,562	394,562	389,793	403,000	416,000
Administrative Building Space Rental							
City of London		29,100	28,700	28,700	28,790	33,000	33,000
OPA/CDM Programs	60,000	60,000	60,000	60,000	78,000	108,000	108,000
Other		3,963	6,046	6,046	4,086	7,200	7,200
Duct rentals	20,000	19,208	19,443	19,443	19,926	20,000	20,000
Year-over-year Variance		\$ 21,213	\$ 21,538	\$ -	\$ 11,844	\$ 50,605	\$ 13,000

9
 10 Pole rental revenue is comprised of the OEB-approved rate of \$22.35 per pole per year for
 11 access to power poles primarily by telephone and cable service providers.

12 Administrative Building Space Rental includes costs recovered for rental of unused or excess
 13 administrative building space. The City of London rents space for its Waterworks Department
 14 and it consists of 1,012 square feet and has an Industrial Shop area, an Office, and a Chlorine
 15 Storage Room. This rent is an affiliate transaction and is included in the section Consolidated
 16 Cost Elements – Cost Recoveries in Exhibit 4. The OPA/CDM rental revenue increased in 2015
 17 and has a larger projected increase in 2016 and 2017 as the amount of space being used has
 18 increased. It should be noted that in the 2013 COS, the City of London Administrative Building
 19 Space Rental was included as an offset to total distribution expenses and not as a component
 20 of OEB 4210.



1 **4225 - Late Payment Charges**

2 London Hydro charges 1.5% per month (19.56% annually) for late payments, applied to all
 3 accounts not paid by the due date. Since the charge rate has remained constant, the upward
 4 trend in LPC revenue reflects an increased balance of overdue accounts which has been
 5 primarily economy driven. The continued upward trend in 2016 and 2017 is due to two main
 6 factors:

- 7 • Removing the OCEB and DRC – residential customers would see a net increase on their
 8 monthly bill, beginning January 1, 2016.
- 9 • Rising TOU prices – bill totals for the average customer will continue to increase.

10 **4235 - Miscellaneous Service Revenues**

11 This account includes various types of revenue, as outlined below:

Item	Rate	2013 Board Approved	2013 Actual (CGAAP)	2014 Actual (CGAAP)	2014 Actual (MIFRS)	2015 Actual (MIFRS)	2016 Bridge (MIFRS)	2017 Test (MIFRS)
Revenues		\$ 846,900	\$ 813,798	\$ 1,094,367	\$ 1,094,367	\$ 813,958	\$ 885,900	\$ 904,900
Interval Metering Charges		37,000	38,286	38,573	38,573	41,540	41,000	42,000
Microfit Fees		7,900	8,978	11,464	11,464	13,684	16,900	
Cellular Meter Read Fee								19,900
Occupancy Charges		675,000	574,950	594,327	594,327	618,990	623,000	635,000
Arrears Certificates		26,000	17,246	14,433	14,433	16,771	20,000	20,000
Temporary service - install and remove overhead no transformer		12,420	18,000	14,000	14,000	14,000	12,092	12,278
Temporary service - install and remove underground no transformer		2,473	3,600	1,500	1,500	4,500	2,524	2,562
Temporary service - install and remove - non standard		70,107	122,295	166,343	166,343	150,311	115,385	117,160
Miscellaneous Customer Service Charges		8,000	9,059	13,020	13,020	10,228	10,000	10,000
Billable Services		8,000	21,385	240,709	240,709	(56,065)	45,000	46,000
Year-over-year Variance			\$ (33,102)	\$ 280,569	\$ -	\$ (280,409)	\$ 71,942	\$ 19,000

12

13 Revenue from Billable Services relates to cost recoveries associated with work performed for
 14 third parties. This revenue is driven purely by demand and does not follow any particular trend.
 15 The 2014 actual revenue was due to a project undertaken to assist Hydro One with the
 16 implementation of their SAP billing system – revenues were particularly high and not indicative



1 of normal activity. Further discussion regarding this project takes place in Exhibit 4 in the
2 section Customer Services and Collections – Cost Summary.

3 Microfit Fees consist of the OEB-approved province-wide charge of \$5.40 per month per
4 customer. The active number of microFIT generation facilities has steadily increased over the
5 last few years and is expected to continue to rise in London. The following values indicate the
6 annual trends for the following periods:

- 7 • December 31, 2013: 151 microFIT customers
- 8 • December 31, 2014: 187 microFIT customers, 23.8% increase over previous year
- 9 • December 31, 2015: 229 microFIT customers, 22.5% increase over previous year

10 A new fee is being proposed for the 2017 Test Year. This is the Cellular Meter Read Fee and is
11 described in detail in Exhibit 8, Tab 7, Schedule 2 “Cellular Meter Read Charge”.

12 **5330 – Collection Charges (4235)**

13 These charges include returned cheque charges, collection of account charges, and
14 disconnect/reconnect at meter charges. They have been credited to account 5330 (Collection
15 Charges) and offset “Billing and Collecting” costs, based on the direction provided in the OEB
16 Accounting Procedures Handbook, which states that account 5330 “shall include all amounts
17 recovered due to the imposition of charges related to the collection of customer accounts”.
18 London Hydro’s interpretation of this direction is that the above mentioned charges fit this
19 definition. There is no effect on the total revenue requirement whether these amounts are
20 treated as other income or credits to billing and collection costs. The amounts forecasted for
21 the 2016 Bridge Year and 2017 Test Year are reflective of normal activity based on historical
22 results.

23 **4245 – Government and Other Assistance Directly Credited to Income**

24 This account contains the annual amortization of Contributions in Aid of Construction – these
25 contributions are recorded in OEB Account 2440 and are included in Appendix 2-BA.



1 **4355 – Gain on Disposition of Utility and Other Property**

2 For the 2017 Test Year, this account reflects an estimated total of \$117,000 for the gain on sale
 3 of scrap transformers, \$22,500 for the gain on sale of vehicles (10 vehicles budgeted), and
 4 \$7,500 for the gain on sale of fully depreciated small equipment – for a total of \$147,000.

5 **4390 – Miscellaneous Non-Operating Income**

Item	2013 Board Approved	2013 Actual (CGAAP)	2014 Actual (CGAAP)	2014 Actual (MIFRS)	2015 Actual (MIFRS)	2016 Bridge (MIFRS)	2017 Test (MIFRS)
Revenues	\$ 216,575	\$ 499,889	\$ 536,878	\$ 536,878	\$ 326,330	\$ 411,574	\$ 418,600
Supplier Discounts - on material purchases	31,000	19,954	20,696	20,696	20,452	23,000	24,000
Supplier Penalties - re: material purchase agreements	4,000	4,599	2,575	2,575	2,812	8,000	8,000
Sale of Scrap	150,000	398,807	507,604	507,604	297,665	377,000	383,000
Fitness Centre Revenue	3,000	3,522	2,775	2,775	4,727	3,000	3,000
Miscellaneous Revenue	6,000	72,005	2,758	2,758	303	-	-
Management Fee for Renewable Energy Non-Distribution Asset	22,575	1,001	470	470	372	574	600
Year-over-year Variance		\$ 283,314	\$ 36,990		\$ (210,549)	\$ 85,244	\$ 7,026

6
 7 Miscellaneous non-operating revenues by their nature are difficult to accurately forecast.
 8 Budgeting for the 2017 Test Year was based on recent historical patterns in the areas of
 9 Supplier Discounts, Supplier Penalties, Sale of Scrap, and Fitness Centre Revenue.

10 Miscellaneous Revenue has no budgeted amount for the 2017 Test Year as historical review
 11 indicates a gradual decline in revenues that are not specifically attributable to specific items.
 12 2013 Actuals were unusually high due to an extraordinary, one-time occurrence. \$70,747.50
 13 was taken into revenue during 2013 as a result of the sale of pole data from the London Hydro
 14 GIS system to Bell Canada. Bell Canada was pursuing the option of expanding their fibre optic
 15 system to the home, but did not have poles modeled in their GIS system. They wanted the pole
 16 data to be in their own system so they could study and evaluate the best locations in London to
 17 install fibre optic cable. London Hydro set a price of \$2.50 per pole point and provided 28,299
 18 pole data points for a total of \$70,747.50. This was a unique situation and is not expected to
 19 occur again in the future.



1 The management fees associated with the ongoing administration and management of the
 2 renewable non-distribution assets are included in miscellaneous non-operating income. Further
 3 details can be found in Exhibit 4 in the section on Renewable Generation.

4 **4405 - Interest Income**

Item	2013 Board Approved	2013 Actual (CGAAP)	2014 Actual (CGAAP)	2014 Actual (MIFRS)	2015 Actual (MIFRS)	2016 Bridge (MIFRS)	2017 Test (MIFRS)
Revenues	\$ 289,329	\$ 187,678	\$ 145,545	\$ 145,545	\$ 184,100	\$ 165,471	\$ 161,545
Bank Deposit Interest	115,000	104,027	69,373	69,373	101,266	108,000	110,000
Employee Purchase Interest		218	18	18	-	-	-
Miscellaneous Interest Revenue		6	-	-	99	-	-
Foreign Exchange Gain/Loss		(193)	12	12	15,405	-	-
Interest on Investment of Non-Distribution Renewable Generation Asset	174,329	83,620	76,141	76,141	67,330	57,471	51,545
Year-over-year Variance		\$ (101,651)	\$ (42,134)	\$ -	\$ 38,555	\$ (18,628)	\$ (3,927)

5
 6 Interest income is derived from the investment of surplus funds and has been budgeted for the
 7 2017 Test Year based on historical patterns.

8 Interest associated with Retail Settlement Variance Accounts (“RSVAs”) and other deferral and
 9 variance accounts are not included in Account 4405 Interest Income in this Application. This
 10 interest is included in the appropriate Deferral and Variance Accounts in Exhibit 9, and the offset
 11 was reported in the 2015 RRR Trial Balance in Account 4405 Interest Income.

12 The interest on funds provided for the capital expenditures for the non-distribution renewable
 13 generation operations is included in interest income as discussed in Exhibit 4 in the section on
 14 Renewable Generation. For 2013 through 2016, interest has been calculated using the deemed
 15 long-term debt rate of 4.12%, as approved in the 2013 Cost of Service Application. The interest
 16 for the 2017 Test Year has been calculated using a deemed long-term debt rate of 4.54%,
 17 based on the OEB-issued cost of capital parameter update issued on October 15, 2015. The
 18 variance between 2013 Board Approved and 2013 Actuals is due to non-distribution related
 19 capital expenditures being significantly lower than projected for the 2012 Bridge Year and 2013
 20 Test Year during the 2013 COS process. This resulted in negative variances for both interest in
 21 OEB 4405 as well as management fees in OEB 4390.



File Number:EB-2016-0091

Exhibit: 3

Tab: 3

Schedule: 1

Date Filed:August 26, 2016

ATTACHMENT 1 OF 1
OEB APPENDIX 2-H OTHER OPERATING REVENUE

**Appendix 2-H
 Other Operating Revenue**

USoA #	USoA Description	2013 Actual	2014 Actual	2015 Actual ²	Actual Year ²	Bridge Year ²	Test Year
		2013	2014	2015	2015	2016	2017
	<i>Reporting Basis</i>						
4235	Miscellaneous Service Reve	\$ 813,798	\$ 1,094,367	\$ 1,094,367	\$ 813,958	\$ 885,900	\$ 904,900
4225	Late Payment Charges	\$ 1,454,009	\$ 1,739,022	\$ 1,739,022	\$ 1,815,609	\$ 1,932,000	\$ 1,967,000
4082	Retail Services Revenues	\$ 119,353	\$ 104,398	\$ 104,398	\$ 92,212	\$ 82,000	\$ 73,000
4084	Service Transaction Requests (STR) Revenues	\$ 4,180	\$ 2,745	\$ 2,745	\$ 2,951	\$ 3,000	\$ 3,000
4086	SSS Administration Revenue	\$ 422,537	\$ 433,330	\$ 433,330	\$ 439,506	\$ 448,000	\$ 455,000
4210	Rent from Electric Property	\$ 487,213	\$ 508,751	\$ 508,751	\$ 520,595	\$ 571,200	\$ 584,200
4245	Government and Other Assistance Directly Credited to Income	\$ -	\$ -	\$ 20,811	\$ 78,721	\$ 167,569	\$ 219,919
4330	Merchandising, Jobbing, Etc.	\$ 2,031	-\$ 498	-\$ 498	\$ 78,254	\$ 25,000	\$ 30,000
4355	Gain on Disposition of Utility and Other Property	\$ 174,516	\$ 171,938	\$ 171,938	\$ 161,676	\$ 144,000	\$ 147,000
4390	Miscellaneous Non-Operating Income	\$ 499,889	\$ 536,878	\$ 536,878	\$ 326,330	\$ 411,574	\$ 418,600
4405	Interest and Dividend Income	\$ 187,678	\$ 145,545	\$ 145,545	\$ 184,100	\$ 165,471	\$ 161,545
Specific Service Charges		\$ 813,798	\$ 1,094,367	\$ 1,094,367	\$ 813,958	\$ 885,900	\$ 904,900
Late Payment Charges		\$ 1,454,009	\$ 1,739,022	\$ 1,739,022	\$ 1,815,609	\$ 1,932,000	\$ 1,967,000
Other Operating Revenues		\$ 1,033,283	\$ 1,049,224	\$ 1,070,035	\$ 1,133,984	\$ 1,271,769	\$ 1,335,119
Other Income or Deductions		\$ 864,114	\$ 853,863	\$ 853,863	\$ 750,359	\$ 746,045	\$ 757,145
Total		\$ 4,165,204	\$ 4,736,476	\$ 4,757,287	\$ 4,513,910	\$ 4,835,714	\$ 4,964,164

<u>Description</u>	<u>Account(s)</u>
Specific Service Charges:	4235
Late Payment Charges:	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.

Account 4235 - Miscellaneous Service Revenues

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Interval Metering Charges	\$ 38,286	\$ 38,573	\$ 38,573	\$ 41,540	\$ 41,000	\$ 42,000
Occupancy Charges	\$ 574,950	\$ 594,327	\$ 594,327	\$ 618,990	\$ 623,000	\$ 635,000
Arrears Certificates	\$ 17,246	\$ 14,433	\$ 14,433	\$ 16,771	\$ 20,000	\$ 20,000
Electric - Service calls	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Temporary service - install and remove overhead no transformer	\$ 18,000	\$ 14,000	\$ 14,000	\$ 14,000	\$ 12,092	\$ 12,278
Temporary service - install and remove underground no transformer	\$ 3,600	\$ 1,500	\$ 1,500	\$ 4,500	\$ 2,524	\$ 2,562
Temporary service - install and remove - non standard	\$ 122,295	\$ 166,343	\$ 166,343	\$ 150,311	\$ 115,385	\$ 117,160
Billable Services	\$ 21,385	\$ 240,709	\$ 240,709	-\$ 56,065	\$ 45,000	\$ 46,000
Misc Customer Service Charges	\$ 9,059	\$ 13,020	\$ 13,020	\$ 10,228	\$ 10,000	\$ 10,000
MicroFit Fees	\$ 8,978	\$ 11,464	\$ 11,464	\$ 13,684	\$ 16,900	
Cellular Meter Read Fee						\$ 19,900
Returned cheque charges	\$ 55,809	\$ 19,095	\$ 19,095	\$ 17,454	\$ 31,367	\$ 31,904
Collection of account charge - no disconnect	\$ 457,792	\$ 501,610	\$ 501,610	\$ 503,262	\$ 496,763	\$ 505,255
Disconnect/reconnect at meter - during regular hours	\$ 167,909	\$ 170,940	\$ 170,940	\$ 173,090	\$ 173,869	\$ 176,842
Miscellaneous service revenue amounts recorded in account 5330 "collection charges" and reported as a credit to "billing"	-\$ 681,510	-\$ 691,645	-\$ 691,645	-\$ 693,806	-\$ 702,000	-\$ 714,000
Total	\$ 813,798	\$ 1,094,367	\$ 1,094,367	\$ 813,958	\$ 885,900	\$ 904,900

Account 4225 - Late Payment Charges

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Late Payment Charges - Electric	\$ 1,039,688	\$ 1,247,132	\$ 1,247,132	\$ 1,299,251	\$ 1,412,000	\$ 1,438,000
Late Payment Charges - Water	\$ 414,321	\$ 491,890	\$ 491,890	\$ 516,357	\$ 520,000	\$ 529,000
Total	\$ 1,454,009	\$ 1,739,022	\$ 1,739,022	\$ 1,815,609	\$ 1,932,000	\$ 1,967,000

Account 4082 - Retail Services Revenue

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Retail contract initiation charge - one time charge	\$ 200	\$ 100	\$ 100	\$ -	\$ 100	\$ 100
Retailer monthly fixed charge for contract administration	\$ 4,680	\$ 4,880	\$ 4,880	\$ 4,820	\$ 4,800	\$ 4,800
Retailer monthly customer administration charge	\$ 71,583	\$ 62,326	\$ 62,326	\$ 54,702	\$ 48,244	\$ 42,614
Distributor consolidated billing charge - per month per customer	\$ 42,890	\$ 37,092	\$ 37,092	\$ 32,690	\$ 28,856	\$ 25,486
Retailer consolidated billing credit - per month per customer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 119,353	\$ 104,398	\$ 104,398	\$ 92,212	\$ 82,000	\$ 73,000

Account 4084 - Service Transaction Requests (STR) Revenues

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Request fee - per request	\$ 2,041	\$ 1,221	\$ 1,221	\$ 1,312	\$ 1,350	\$ 1,350
Processing fee - per request	\$ 2,139	\$ 1,524	\$ 1,524	\$ 1,639	\$ 1,650	\$ 1,650
Total	\$ 4,180	\$ 2,745	\$ 2,745	\$ 2,951	\$ 3,000	\$ 3,000

Account 4086 - Distribution Services Revenue - SSS Admin Fee

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Distribution Services Revenue - SSS Admin Fee	\$ 422,537	\$ 433,330	\$ 433,330	\$ 439,506	\$ 448,000	\$ 455,000
Total	\$ 422,537	\$ 433,330	\$ 433,330	\$ 439,506	\$ 448,000	\$ 455,000

Account 4210 - Rent from Electric Property

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Pole rentals	\$ 374,942	\$ 394,562	\$ 394,562	\$ 389,793	\$ 403,000	\$ 416,000
Administrative Bldg Space Rental	\$ 93,063	\$ 94,746	\$ 94,746	\$ 110,876	\$ 148,200	\$ 148,200
Duct rentals and miscellaneous	\$ 19,208	\$ 19,443	\$ 19,443	\$ 19,926	\$ 20,000	\$ 20,000
Total	\$ 487,213	\$ 508,751	\$ 508,751	\$ 520,595	\$ 571,200	\$ 584,200

Account 4245 - Government and Other Assistance Directly Credited to Income

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Amortization of Contributed Capital	\$ -	\$ -	\$ 20,811	\$ 78,721	\$ 167,569	\$ 219,919
Total	\$ -	\$ -	\$ 20,811	\$ 78,721	\$ 167,569	\$ 219,919

Account 4330 - Costs and Expenses of Merchandising, Jobbing, etc.

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Net income (expense) from merchandising, jobbing, etc.	\$ 2,031	-\$ 498	-\$ 498	\$ 78,254	\$ 25,000	\$ 30,000
Total	\$ 2,031	-\$ 498	-\$ 498	\$ 78,254	\$ 25,000	\$ 30,000

Account 4355 - Gain on Disposition of Utility and Other Property

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Gain on Disposition of Utility and Other	\$ 174,516	\$ 171,938	\$ 171,938	\$ 161,676	\$ 144,000	\$ 147,000
Total	\$ 174,516	\$ 171,938	\$ 171,938	\$ 161,676	\$ 144,000	\$ 147,000

Account 4390 - Miscellaneous Non-Operating Income

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Supplier Discounts - on material purchases	\$ 19,954	\$ 20,696	\$ 20,696	\$ 20,452	\$ 23,000	\$ 24,000
Supplier Penalties - re: material purchase agreements	\$ 4,599	\$ 2,575	\$ 2,575	\$ 2,812	\$ 8,000	\$ 8,000
Sale of Scrap	\$ 398,807	\$ 507,604	\$ 507,604	\$ 297,665	\$ 377,000	\$ 383,000
Fitness Centre Revenue	\$ 3,522	\$ 2,775	\$ 2,775	\$ 4,727	\$ 3,000	\$ 3,000
Miscellaneous Revenue	\$ 72,005	\$ 2,758	\$ 2,758	\$ 303	\$ -	\$ -
Non Refundable Customer Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Management Fee for Renewable Energy Non-Distribution Asset	\$ 1,001	\$ 470	\$ 470	\$ 372	\$ 574	\$ 600
Total	\$ 499,889	\$ 536,878	\$ 536,878	\$ 326,330	\$ 411,574	\$ 418,600

Account 4405 - Interest and Dividend Income

	2013 Actual	2014 Actual	2014 Actual	2015 Actual	Bridge Year	Test Year
					2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Short-term Investment Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bank Deposit Interest	\$ 104,027	\$ 69,373	\$ 69,373	\$ 101,266	\$ 108,000	\$ 110,000
Employee Purchase Interest	\$ 218	\$ 18	\$ 18	\$ -	\$ -	\$ -
Miscellaneous Interest Revenue	\$ 6	\$ -	\$ -	\$ 99	\$ -	\$ -
Foreign Exchange Gain/Loss	-\$ 193	\$ 12	\$ 12	\$ 15,405	\$ -	\$ -
Interest on Investment of Non-Distribution Renewable Generation Asset	\$ 83,620	\$ 76,141	\$ 76,141	\$ 67,330	\$ 57,471	\$ 51,545
Deferral and Variance Accounts Interest	\$ 98,741	\$ 105,421	\$ 105,421	\$ 148,069	\$ 43,000	\$ 68,000
Less: Interest associated with Deferral and Variance Accounts deducted for revenue offset calculation	-\$ 98,741	-\$ 105,421	-\$ 105,421	-\$ 148,069	-\$ 43,000	-\$ 68,000
Total	\$ 187,678	\$ 145,545	\$ 145,545	\$ 184,100	\$ 165,471	\$ 161,545

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 adopted IFRS on January 1, 2015, 2014 must be presented in both a CGAAP and MIFRS basis.