



File Number: EB-2016-0091

Date Filed: August 26, 2016

**Exhibit 6 -
CALCULATION OF REVENUE DEFICIENCY OR
SUFFICIENCY**



File Number: EB-2016-0091

Date Filed: August 26, 2016

Exhibit 6

Tab 1 of 1

Overview



1 REVENUE DEFICIENCY OR SUFFICIENCY

2 OVERVIEW

3 London Hydro is herein requesting to recover \$73,176,406 in overall revenue requirement for
 4 our Test Year 2017. This includes \$69,004,127 to be recovered from rate payers against our
 5 revenue offset estimated amount of \$4,964,164 and includes \$791,884 in transformation
 6 ownership allowance. At the current 2016 rates (effective May 1, 2016), London Hydro has
 7 determined that for the year 2017 it would recover \$65,532,676 from consumers. This results in
 8 our request to increase our rates by the deficiency amount of \$3,471,451 or an overall rate
 9 increase of 5.30%.

10 The following outlines how London Hydro has determined this amount.

11 RATE BASE

12 Table 6.1.1.1 below shows the calculation of average net fixed assets to be included in the rate.
 13 The support for these values can be found in Exhibit 2.

14 **Table 6.1.1.1 Calculation of Average Net Fixed Assets**

Distributors Rate Base	Original Application	
Average Net Fixed Assets		
Gross Fixed Assets - Re-based Opening	\$ 451,867,413	
Add: CWIP Re-based Opening		
Re-based Capital Additions	\$ 28,092,000	
Re-based Capital Disposals		
Re-based Capital Retirements	-\$ 10,483,097	
Deduct: CWIP Re-based Closing		
Gross Fixed Assets - Re-based Closing	\$ 469,319,009	
Average Gross Fixed Assets		\$ 460,593,211
Accumulated Depreciation - Re-based Opening	-\$ 193,199,445	
Re-based Depreciation Expense	-\$ 17,984,944	
Re-based Disposals		
Re-based Retirements	\$ 10,734,680	
Accumulated Depreciation - Re-based Closing	-\$ 200,449,709	
Average Accumulated Depreciation		-\$ 196,824,577
Average Net Fixed Assets		\$ 263,768,634

15



1 Table 6.1.1.2 below shows the calculation of Working Capital Allowance to be included in the
 2 rate. More details can be found in Exhibit 2. Eligible Distribution Expenses can be found in
 3 Exhibit 4 The calculation of Power Supply expenses can be found in Exhibit 6 Tab 1 Schedule 1
 4 Attachment 2.1. London Hydro has completed a Lead Lag study that determines the working
 5 capital factor as 8.67 %. This study can be found in Exhibit 2, Appendix 2-3.

6 **Table 6.1.1.2 Calculation of Working Capital**

Expenses for Working Capital

Eligible Distribution Expenses:

3500-Distribution Expenses - Operation		10,050,600
3550-Distribution Expenses - Maintenance		8,188,347
3650-Billing and Collecting		5,300,023
3700-Community Relations		225,974
3800-Administrative and General Expenses		15,032,056
3950-Taxes Other Than Income Taxes		0
Total Eligible Distribution Expenses		<u>38,797,000</u>

3350-Power Supply Expenses

Electricity	344,489,030	
WMSR	14,792,612	
RRRP	4,091,574	
RTSR - Network	18,270,488	
RTSR - Connection	16,124,013	
RTSR - Line Connection	0	
RTSR - Transformation Connection	0	
Smart Meter Entity Charge	1,471,846	
Low Voltage	0	
3350-Power Supply Expenses	<u>399,239,563</u>	<u>399,239,563</u>

Total Expenses for Working Capital		<u>438,036,563</u>
Working Capital factor		<u>8.67%</u>
7 Working Capital Allowance		<u>37,977,770</u>

8 Table 6.1.1.3 below is the Calculation of Rate Base as derived in Table 6.1.1.1 Calculation
 9 of Average Net Fixed Assets and Table 6.1.1.2 Calculation of Working Capital shown
 10 above.



1

Table 6.1.1.3 Statement of Rate Base

Average Net Fixed Assets		\$ 263,768,634
Working Capital Allowance		
Working Capital Allowance Base	\$ 438,036,563	
Working Capital Allowance Rate	8.67%	
Working Capital Allowance		\$ 37,977,770
Rate Base		\$ 301,746,404

2

3 **RETURN ON RATE BASE**

4 Table 6.1.1.4 below shows the calculation of the Return on Rate Base. London Hydro is using
 5 the OEB's deemed interest and equity values and applying the effective January 1, 2016
 6 deemed short term interest and return on equity values prescribed by the OEB Cost of Capital
 7 Parameters Updates issued October 15, 2015 (see extract below). Further London Hydro is
 8 applying the long term interest of 2.71% as calculated in Exhibit 5.

Cost of Capital Parameter Updates

Rates Effective	Return on Equity (ROE)	Deemed Long-term Debt Rate	Deemed Short-term Debt Rate	Weighted Average Cost of Capital (WACC)*	Letter (issuance date)
Jan 1, 2016	9.19%	4.54%	1.65%	6.28%	Oct 15, 2015

9

10

Table 6.1.1.4 Calculation of the Return on Rate Base

Return on Rate Base		
Deemed ShortTerm Debt %	4.00%	\$ 12,069,856
Deemed Long Term Debt %	56.00%	\$ 168,977,986
Deemed Equity %	40.00%	\$ 120,698,561
Short Term Interest	1.65%	\$ 199,153
Long Term Interest	2.71%	\$ 4,582,246
Return on Equity	9.19%	\$ 11,092,198
Return on Rate Base		\$ 15,873,597

11



1 **ELIGIBLE DISTRIBUTION EXPENSES**

2 Table 6.1.1.5, found below, details the eligible distribution expenses that London Hydro is
 3 requesting to recover. The details for the OM&A expenses, Amortization and Grossed up PIL's
 4 can be found in Exhibit 4.

5 **Table 6.1.1.5 Eligible Distribution Expenses**

Distribution Expenses		
Operation Expenses	\$	10,050,600
Maintenance Expenses	\$	8,188,347
Billing & Collecting	\$	5,300,023
Community Relations	\$	225,974
Administration Expenses	\$	15,032,056
Amortization	\$	17,128,312
Grossed Up PILs	\$	1,377,498
		\$ 57,302,810

6

7 **CALCULATION OF REVENUE REQUIREMENT**

8 Table 6.1.1.6 below shows the calculation of our requested revenue requirement.

9 **Table 6.1.1.6 Calculation of Revenue Requirement**

Rate Base		\$ 301,746,404
Return on Rate Base		
Deemed ShortTerm Debt %	4.00%	\$ 12,069,856
Deemed Long Term Debt %	56.00%	\$ 168,977,986
Deemed Equity %	40.00%	\$ 120,698,561
Short Term Interest	1.65%	\$ 199,153
Long Term Interest	2.71%	\$ 4,582,246
Return on Equity	9.19%	\$ 11,092,198
Return on Rate Base		\$ 15,873,597
Distribution Expenses		
Operation Expenses	\$	10,050,600
Maintenance Expenses	\$	8,188,347
Billing & Collecting	\$	5,300,023
Community Relations	\$	225,974
Administration Expenses	\$	15,032,056
Amortization	\$	17,128,312
Grossed Up PILs	\$	1,377,498
		\$ 57,302,810
Revenue Requirement		\$ 73,176,406

10



1 **REVENUE OFFSETS**

2 Table 6.1.1.7 below details the revenue offsets that London Hydro estimates as determined in
 3 Exhibit 3 Tab 3 Schedule 1.

4 **Table 6.1.1.7 Revenue Offsets**

Revenue Offsets		
Specific Service Charges	-\$	1,689,119
Late Payment Charges	-\$	1,967,000
Other Distribution Revenue	-\$	550,900
Other Income and Deductions	-\$	757,145
	\$	-
	\$	-
	-\$	4,964,164

5

6 **OTHER REVENUE INCLUSIONS**

7 Table 6.1.1.8 below highlights the Transformer Ownership allowance amount that needs to be
 8 added to the affected rate classes for recovery. The calculation for this is determined in the load
 9 forecast found in Exhibit 3 Tab 1 Schedule 2.

10

11 **Table 6.1.1.8 Other Revenue Inclusions**

Other Revenue Inclusions		
Transformer Allowance	\$	791,884
	\$	-
	\$	-
	\$	-
	\$	791,884

12

13

14

15 **REVENUE REQUIREMENT FROM DISTRIBUTION RATES**

16 Table 6.1.1.9 below shows the calculation of the Revenue Requirement from Distribution
 17 Rates. This is the overall amount that will be used to set the final rates design as found
 18 in Exhibit 8.



1 **Table 6.1.1.9 Revenue Requirement from Distribution Rates**

Revenue Requirement		\$ 73,176,406
Revenue Offsets		
Specific Service Charges	-\$ 1,689,119	
Late Payment Charges	-\$ 1,967,000	
Other Distribution Revenue	-\$ 550,900	
Other Income and Deductions	-\$ 757,145	
	\$ -	
	\$ -	-\$ 4,964,164
Other Revenue Inclusions		
Transformer Allowance	\$ 791,884	
	\$ -	
	\$ -	
	\$ -	\$ 791,884
Revenue Requirement from Distribution Rates		\$ 69,004,127

3 **CALCULATION OF REVENUE DEFICIENCY**

4 London Hydro has determined that it requires to collect \$69,004,127 in revenue from it
 5 ratepayers. If London Hydro were to continue billing with its current rates we expect to recover
 6 \$65,532,676 from rate payers. Hence London Hydro needs to increase revenues by
 7 \$3,471,451 or 5.30% to remain whole. Table 6.1.1.10 below shows this calculation.

8 **Table 6.1.1.10 Calculation of Revenue Deficiency**

Revenue Requirement from Distribution Rates	\$ 69,004,127
Revenue from Current Rates	\$ 65,532,676
Revenue Sufficiency (Deficiency)	-\$ 3,471,451
Resulting Distribution Rate Change	5.30%



File Number:EB-2016-0091

Exhibit: 6

Tab: 1

Schedule: 1

Date Filed:August 26, 2016

ATTACHMENT 1 OF 2

REVENUE REQUIREMENT CALCULATION

Revenue Requirement

Distributors Rate Base	Original Application	
Average Net Fixed Assets		
Gross Fixed Assets - Re-based Opening	\$ 451,867,413	
Add: CWIP Re-based Opening		
Re-based Capital Additions	\$ 28,092,000	
Re-based Capital Disposals		
Re-based Capital Retirements	-\$ 10,483,097	
Deduct: CWIP Re-based Closing		
Gross Fixed Assets - Re-based Closing	\$ 469,319,009	
Average Gross Fixed Assets		\$ 460,593,211
Accumulated Depreciation - Re-based Opening	-\$ 193,199,445	
Re-based Depreciation Expense	-\$ 17,984,944	
Re-based Disposals		
Re-based Retirements	\$ 10,734,680	
Accumulated Depreciation - Re-based Closing	-\$ 200,449,709	
Average Accumulated Depreciation		-\$ 196,824,577
Average Net Fixed Assets		\$ 263,768,634
Working Capital Allowance		
Working Capital Allowance Base	\$ 438,036,563	
Working Capital Allowance Rate	8.67%	
Working Capital Allowance		\$ 37,977,770
Rate Base		\$ 301,746,404
Return on Rate Base		
Deemed ShortTerm Debt %	4.00%	\$ 12,069,856
Deemed Long Term Debt %	56.00%	\$ 168,977,986
Deemed Equity %	40.00%	\$ 120,698,561
Short Term Interest	1.65%	\$ 199,153
Long Term Interest	2.71%	\$ 4,582,246
Return on Equity	9.19%	\$ 11,092,198
Return on Rate Base		\$ 15,873,597
Distribution Expenses		
Operation Expenses	\$ 10,050,600	
Maintenance Expenses	\$ 8,188,347	
Billing & Collecting	\$ 5,300,023	
Community Relations	\$ 225,974	
Administration Expenses	\$ 15,032,056	
Taxes other than Income taxes	\$ -	
Amortization	\$ 17,128,312	
Grossed Up PILs	\$ 1,377,498	
		\$ 57,302,810
Revenue Requirement		
		\$ 73,176,406
Revenue Offsets		
Specific Service Charges	-\$ 1,689,119	
Late Payment Charges	-\$ 1,967,000	
Other Distribution Revenue	-\$ 550,900	
Other Income and Deductions	-\$ 757,145	
	\$ -	
	\$ -	-\$ 4,964,164
Revenue Requirement from Distribution Rates		\$ 68,212,243
Other Revenue Inclusions		
Transformer Allowance	\$ 791,884	
	\$ -	
	\$ -	
	\$ -	\$ 791,884
Revenue Requirement from Distribution Rates		\$ 69,004,127
Revenue from Current Rates		\$ 65,532,676
Revenue Sufficiency (Deficiency)		-\$ 3,471,451
Resulting Distribution Rate Change		5.30%

Cost of Capital Parameter Updates

Rates Effective	Return on Equity (ROE)	Deemed Long-term Debt Rate	Deemed Short-term Debt Rate	Weighted Average Cost of Capital (WACC)*	Letter (issuance date)
Jan 1, 2016	9.19%	4.54%	1.65%	6.28%	Oct 15, 2015



File Number:EB-2016-0091

Exhibit: 6

Tab: 1

Schedule: 1

Date Filed:August 26, 2016

ATTACHMENT 2 OF 2

2017 COST OF POWER CALCULATION

2017 Commodity Price Calculation

Rate Class	Actual kWh	Non-RPP kWh	RPP kWh
	A	B	C = A - B
Residential	1,084,665,529	63,200,895	1,021,464,634
General Service Less Than 50 kW	399,647,918	66,974,565	332,673,353
General Service 50 to 4,999 kW	1,465,515,148	1,346,935,035	118,580,113
General Service 50 to 4,999 kW (Wholesale Market Participant)	0	0	0
General Service 1,000 To 4,999 kW (co-generation)	38,831,481	38,831,481	0
Standby Power	0	0	0
Large Use	137,445,055	137,445,055	0
Street Lighting	24,640,359	24,640,359	0
Sentinel Lighting	738,971	19,496	719,475
Unmetered Scattered Load	5,465,820	103,474	5,362,346
microFIT	0	0	0
Total	3,156,950,281	1,678,150,360	1,478,799,921
%	100.0%	53.2%	46.8%

Supply Cost (\$/MWh) For the period from May 1, 2016 to April 30, 2017
Forecast Wholesale Electricity Price
Load-Weighted Price for RPP Consumers
Impact of Global Adjustment
Adjustment to Address Bias Towards Unfavourable Variance
Adjustment to Clear Existing Variance
Total Supply Cost (\$/MWh)
Split
Weighted Supply Cost (\$/MWh)

	RPP	Non-RPP
		\$16.86
	\$18.59	
	\$90.86	\$90.86
	\$1.00	
	\$0.97	
	\$111.42	\$107.72
	46.8%	53.2%
	\$109.45	\$52.19
	\$52.19	\$57.26

Table ES-1: Average RPP Supply Cost Summary (for the 12 months from May 1, 2016)

RPP Supply Cost Summary for the period from May 1, 2016 through April 30, 2017		
Forecast Wholesale Electricity Price		\$16.86
Load-Weighted Price for RPP Consumers (\$ / MWh)		\$18.59
Impact of the Global Adjustment (\$ / MWh)	+	\$90.86
Adjustment to Address Bias Towards Unfavourable Variance (\$ / MWh)	+	\$1.00
Adjustment to Clear Existing Variance (\$ / MWh)	+	\$0.97
Average Supply Cost for RPP Consumers (\$ / MWh)	=	\$111.41

Pass-Thru Revenue

Electricity

Rate Class	Metric	Volumetric Charge	Loss Adjusted Billed kWh	Not Used	Electricity
Residential	kWh	0.1095	1,102,334,960	0	120,654,066
General Service Less Than 50 kW	kWh	0.1095	383,627,087	0	41,989,204
General Service 50 to 4,999 kW	kW	0.1095	1,515,322,939	0	165,856,913
General Service 1,000 To 4,999 kW (co-generator)	kW	0.1095	34,916,416	0	3,821,713
Large Use	kW	0.1095	84,681,483	0	9,268,658
Street Lighting	kW	0.1095	20,116,816	0	2,201,850
Sentinel Lighting	kW	0.1095	728,467	0	79,733
Unmetered Scattered Load	kWh	0.1095	5,636,152	0	616,895
					\$ 344,489,030

Wholesale Market Service Rate

Rate Class	Metric	Volumetric Charge	Loss Adjusted Billed kWh	Not Used	WMSR
Residential	kWh	0.0047	1,102,334,960	0	5,180,974
General Service Less Than 50 kW	kWh	0.0047	383,627,087	0	1,803,047
General Service 50 to 4,999 kW	kWh	0.0047	1,515,322,939	0	7,122,018
General Service 1,000 To 4,999 kW (co-generator)	kWh	0.0047	34,916,416	0	164,107
Large Use	kWh	0.0047	84,681,483	0	398,003
Street Lighting	kWh	0.0047	20,116,816	0	94,549
Sentinel Lighting	kWh	0.0047	728,467	0	3,424
Unmetered Scattered Load	kWh	0.0047	5,636,152	0	26,490
					\$ 14,792,612

Rural Rate Protection Charge

Rate Class	Metric	Volumetric Charge	Loss Adjusted Billed kWh	Not Used	RRRP
Residential	kWh	0.0013	1,102,334,960	0	1,433,035
General Service Less Than 50 kW	kWh	0.0013	383,627,087	0	498,715
General Service 50 to 4,999 kW	kWh	0.0013	1,515,322,939	0	1,969,920
General Service 1,000 To 4,999 kW (co-generator)	kWh	0.0013	34,916,416	0	45,391
Large Use	kWh	0.0013	84,681,483	0	110,086
Street Lighting	kWh	0.0013	20,116,816	0	26,152
Sentinel Lighting	kWh	0.0013	728,467	0	947
Unmetered Scattered Load	kWh	0.0013	5,636,152	0	7,327
					\$ 4,091,574

Retail Transmission Rate - Network Service Rate

Rate Class	Metric	Volumetric Charge	Loss Adjusted Billed kWh	Billed kW	RTSR - Network
Residential	kWh	0.0064	1,102,334,960	0	7,089,893
General Service Less Than 50 kW	kWh	0.0061	383,627,087	0	2,324,340
General Service 50 to 4,999 kW	kW	2.1336	1,515,322,939	3,778,018	8,060,610
General Service 1,000 To 4,999 kW (co-generator)	kW	3.1584	34,916,416	65,844	207,964
Large Use	kW	2.8025	84,681,483	159,628	447,365
Street Lighting	kW	1.8785	20,116,816	54,607	102,581
Sentinel Lighting	kW	1.8810	728,467	1,907	3,587
Unmetered Scattered Load	kWh	0.0061	5,636,152	0	34,149
					\$ 18,270,488

Retail Transmission Rate - Connection Service Rate

Rate Class	Metric	Volumetric Charge	Loss Adjusted Billed kWh	Billed kW	RTSR - Connection
Residential	kWh	0.0058	1,102,334,960	0	6,398,230
General Service Less Than 50 kW	kWh	0.0051	383,627,087	0	1,957,932
General Service 50 to 4,999 kW	kW	1.8661	1,515,322,939	3,778,018	7,050,036
General Service 1,000 To 4,999 kW (co-generator)	kW	2.7505	34,916,416	65,844	181,105
Large Use	kW	2.6003	84,681,483	159,628	415,081
Street Lighting	kW	1.6431	20,116,816	54,607	89,725
Sentinel Lighting	kW	1.6453	728,467	1,907	3,138
Unmetered Scattered Load	kWh	0.0051	5,636,152	0	28,765
					\$ 16,124,013

Smart Meter Entity

Rate Class	Metric	Fixed Charge	Customers	Not Used	LV Service Rate
Residential	kWh	0.7900	142,509	0	1,350,985
General Service Less Than 50 kW	kWh	0.7900	12,749	0	120,861
General Service 50 to 4,999 kW	kWh	0.0000	1,561	0	0
					\$ 1,471,846



1 **COMPARISON TO 2013 DEFICIENCY**

2 **2017 DEFICIENCY ADJUSTMENT**

3 London Hydro is requesting an overall 5.30% (\$3.5 M) deficiency adjustment to our current
4 rates. This request is very similar to the final 5.50% (\$3.6 M) adjustment approved by the OEB
5 in our 2013 COS settlement. The net result is a \$0.5M change in London Hydro's deficiency
6 adjustment from the previous OEB Approved deficiency. Table 6.1.2.1 below highlights the
7 change drivers from the 2013 COS. Details for the calculation of these values can be found in
8 Exhibit 6 Tab 1 Schedule 2 Attachment 1.1.

9 **Table 6.1.2.1 Change in Revenue Deficiency**

London Hydro 2017 vs 2013 OEB Approved Deficiency Adjustment

Increase in Average Gross Fixed Assets	\$ 40,092,422	
Change in Average Accumulated Depreciation	<u>\$ (2,878,923)</u>	
Increase in Average Net Fixed Assets	<u>\$ 37,213,499</u>	
Decrease in Working Capital	<u>\$ (3,980,428)</u>	
Change in Rate Base	<u>\$ 33,233,071</u>	
Reduction In Interest	\$ (2,327,760)	
Increase in Return on Equity	<u>\$ 1,417,752</u>	
Change in Return on Rate Base	<u>\$ (910,008)</u>	\$ (910,008)
Change in OM&A	\$ 5,819,000	
Change in Depreciation	\$ 1,371,962	
Change in Grossed-up PILS	\$ 569,420	
Change in Miscellaneous Revenue	\$ (1,313,597)	
Change in Transformer Ownership Allowance	<u>\$ (11,120)</u>	
Net Changes	<u>\$ 5,525,657</u>	
Change in Revenue at Existing Rates	<u>\$ 5,999,662</u>	
Change in Deficiency Adjustment	<u>\$ (474,005)</u>	



1 London Hydro is requesting \$40 M more in average Fixed Assets with a \$3 M change in
2 Average Accumulated Depreciation or \$37 M more in Average Net Fixed Assets. London Hydro
3 notes that it consistently invests more in annual capital expenditures over what is accounted for
4 and requested in annual depreciation. Details on Fixed Assets can found in Exhibit 2.

5 London Hydro's most recent lead lag study results in a \$4 M reduction in the Working Capital
6 calculation. London Hydro notes that the requested \$71 M increase in working capital
7 requirements is offset by the 2.75% (2013 11.62% minus 2017 8.67%) reduction in applied
8 working capital allowance calculated. Details on the Lead/Lag study can found in Exhibit 4.

9 Hence London Hydro's resulting Rate Base increase is a net \$33 M higher.

10 Due to reduced negotiated interest rates we are requesting a recovery of \$2.3 M less in our
11 interest request. This is offset by a \$1.4M increase in our Return on Equity which is driven
12 primarily by the increase in Assets. Details on capitalization can found in Exhibit 5.

13 OM&A is up \$5.8 M. Details on OM&A can be found in Exhibit 4.

14 Depreciation is up \$1.4M reflecting the lower amount recovered on a higher Net Fixed Asset
15 base. Details on Depreciation can found in Exhibit 2.

16 Grossed up PILs (Income Taxes) are up \$0.6 M reflecting higher recovery amounts required on
17 the higher Rate Base due to higher capital spending and the reduced IFRS impact on
18 depreciation. Details on PILs can found in Exhibit 4.

19 Miscellaneous Revenue Offsets have increased \$1.3 M. The resulting increase in this area is a
20 benefit to our customers as it allows London Hydro to lower its revenue requirement from rate
21 payers. Details on Miscellaneous can found in Exhibit 3 Tab 3 Schedule 1.

22 A hidden impact as identified in our Load Forecast in Exhibit 3 Tab 1 Schedule 2 is the lost
23 revenue, effective in 2016, from the transfer to the GS>50 kW rate class of two large users, one
24 that closed production and the other that was transferred because of reduced load. The effect
25 of this is estimated to be \$750 k in lost annual revenue annually.



File Number: EB-2016-0091

Exhibit: 6

Tab: 1

Schedule: 2

Page: 3 of 3

Date Filed: August 26, 2016

1 Also, as identified in our Load Forecast in Exhibit 3 Tab 1 Schedule 2, London Hydro transferred
2 a net of 93 customers (44 in 2014, 32 in 2015, and 17 in 2016) from GS>50 kW rate class to the
3 GS<50 kW rate class. It is estimated that each of the net transfers results in erosion in revenue
4 of \$1,500 per year or about \$300 K in total for the three years.

5 London Hydro therefore is herein requesting \$5.5 M more in adjustments over the final 2013
6 OEB approved amounts. This is offset by the \$6.0 M increase in the projected existing current
7 distribution revenues. Hence London Hydro is requesting a \$0.5M change in revenue deficiency
8 over the 2013 OEB Final approved deficiency adjustment.

9 This all leads to a gross \$3.5 M deficiency adjustment or a 5.30% requested increase in rates.
10 At the end of the day this manifests into a less than \$1.00 per month increase to the average
11 residential customers total bill for those consuming 750 kWh per month.



File Number:EB-2016-0091

Exhibit: 6

Tab: 1

Schedule: 2

Date Filed:August 26, 2016

ATTACHMENT 1 OF 2

COMPARE 2013 VS 2017 REVENUE REQUIREMENT

Name of LDC: London Hydro Inc.
 OEB Licence Number: ED-2002-0557

Revenue Requirement

Distributors Rate Base	2017 Application	2013 Application	Change
Average Gross Fixed Assets	\$ 460,593,211	\$ 420,500,789	\$ 40,092,422
Average Accumulated Depreciation	-\$ 196,824,577	-\$ 193,945,654	-\$ 2,878,923
Average Net Fixed Assets	\$ 263,768,634	\$ 226,555,135	\$ 37,213,499
Working Capital Allowance			
Working Capital Allowance Base	\$ 438,036,563	\$ 367,409,790	\$ 70,626,773
Working Capital Allowance Rate	8.67%	11.42%	
Working Capital Allowance	\$ 37,977,770	\$ 41,958,198	-\$ 3,980,428
Rate Base	\$ 301,746,404	\$ 268,513,333	\$ 33,233,071
Return on Rate Base			
Deemed ShortTerm Debt %	4.00%	4.00%	\$ 1,329,323
Deemed Long Term Debt %	56.00%	56.00%	\$ 18,610,520
Deemed Equity %	40.00%	40.00%	\$ 13,293,228
Short Term Interest	1.65%	2.07%	-\$ 23,176
Long Term Interest	2.71%	4.58%	-\$ 2,304,584
Return on Equity	9.19%	8.98%	\$ 1,417,752
Return on Rate Base	\$ 15,873,597	\$ 16,783,605	-\$ 910,008
Distribution Expenses			
Operation Expenses	\$ 10,050,600		
Maintenance Expenses	\$ 8,188,347		
Billing & Collecting	\$ 5,300,023		
Community Relations	\$ 225,974		
Administration Expenses	\$ 15,032,056	\$ 32,978,000	\$ 5,819,000
Taxes other than Income taxes	\$ -	\$ -	
Amortization	\$ 17,128,312	\$ 15,756,350	\$ 1,371,962
Grossed Up PILs	\$ 1,377,498	\$ 808,078	\$ 569,420
	\$ 57,302,810	\$ 49,542,428	\$ 6,850,373
Revenue Requirement	\$ 73,176,406	\$ 66,326,033	
Revenue Offsets			
Specific Service Charges	-\$ 1,689,119	-\$ 839,000	-\$ 850,119
Late Payment Charges	-\$ 1,967,000	-\$ 1,133,000	-\$ 834,000
Other Distribution Revenue	-\$ 550,900	-\$ 1,041,900	\$ 491,000
Other Income and Deductions	-\$ 757,145	-\$ 636,667	-\$ 120,478
	-\$ 4,964,164	-\$ 3,650,567	-\$ 1,313,597
Other Revenue Inclusions			
Transformer Allowance	\$ 791,884	\$ 803,004	-\$ 11,120
	\$ 791,884	\$ 803,004	-\$ 11,120
Revenue Requirement from Distribution Rates	\$ 69,004,127	\$ 63,478,470	\$ 5,525,657
Revenue from Current Rates	\$ 65,532,676	\$ 59,533,014	\$ 5,999,662
Revenue Sufficiency (Deficiency)	-\$ 3,471,451	-\$ 3,945,456	\$ 474,005
Resulting Distribution Rate Change	5.30%	5.21%	



File Number:EB-2016-0091

Exhibit: 6

Tab: 1

Schedule: 2

Date Filed:August 26, 2016

ATTACHMENT 2 OF 2

OEB RRWF MODEL



Ontario Energy Board

Revenue Requirement Workform (RRWF) for 2017 Filers



Version 7.02

Utility Name	London Hydro Inc.
Service Territory	City of London
Assigned EB Number	EB-2016-0091
Name and Title	Martin Benum
Phone Number	519-661-5800 x 5750
Email Address	benumm@londonhydro.com

The RRWF has been enhanced commencing with 2017 rate applications to provide estimated base distribution rates. The enhanced RRWF is not intended to replace a utility's formal rate generator model which should continue to be the source of the proposed rates as well as the final ones at the conclusion of the proceeding. The load forecasting addition made to this model is intended to be demonstrative only and does not replace the information filed in the utility's application. In an effort to minimize the incremental work required from utilities, the cost allocation and rate design additions to this model do in fact replace former appendices that were required to be filed as part of the cost of service (Chapter 2) filing requirements.

This Workbook Model is protected by copyright and is being made available to you solely for the purpose of filing your application. You may use and copy this model for that purpose, and provide a copy of this model to any person that is advising or assisting you in that regard. Except as indicated above, any copying, reproduction, publication, sale, adaptation, translation, modification, reverse engineering or other use or dissemination of this model without the express written consent of the Ontario Energy Board is prohibited. If you provide a copy of this model to a person that is advising or assisting you in preparing the application or reviewing your draft rate order, you must ensure that the person understands and agrees to the restrictions noted above.

While this model has been provided in Excel format and is required to be filed with the applications, the onus remains on the applicant to ensure the accuracy of the data and the results.



Ontario Energy Board

Revenue Requirement Workform (RRWF) for 2017 Filers

[1. Info](#)

[2. Table of Contents](#)

[3. Data Input Sheet](#)

[4. Rate Base](#)

[5. Utility Income](#)

[6. Taxes PILs](#)

[7. Cost of Capital](#)

[8. Rev Def Suff](#)

[9. Rev Req](#)

[10. Load Forecast](#)

[11. Cost Allocation](#)

[12. Residential Rate Design](#)

[13. Rate Design and Revenue Reconciliation](#)

[14. Tracking Sheet](#)

Notes:

- (1) Pale green cells represent inputs
- (2) Pale green boxes at the bottom of each page are for additional notes
- (3) Pale yellow cells represent drop-down lists
- (4) ***Please note that this model uses MACROS. Before starting, please ensure that macros have been enabled.***
- (5) ***Completed versions of the Revenue Requirement Work Form are required to be filed in working Microsoft Excel format.***



Revenue Requirement Workform (RRWF) for 2017 Filers

Data Input ⁽¹⁾

	Initial Application ⁽²⁾					Per Board Decision
1 Rate Base						
Gross Fixed Assets (average)	\$460,593,211			\$ 460,593,211		\$460,593,211
Accumulated Depreciation (average)	(\$196,824,577) ⁽⁵⁾			(\$196,824,577)		(\$196,824,577)
Allowance for Working Capital:						
Controllable Expenses	\$38,797,000			\$ 38,797,000		\$38,797,000
Cost of Power	\$399,239,563			\$ 399,239,563		\$399,239,563
Working Capital Rate (%)	8.67% ⁽⁹⁾				⁽⁹⁾	
2 Utility Income						
Operating Revenues:						
Distribution Revenue at Current Rates	\$64,740,792					
Distribution Revenue at Proposed Rates	\$68,212,243					
Other Revenue:						
Specific Service Charges	\$1,689,119					
Late Payment Charges	\$1,967,000					
Other Distribution Revenue	\$550,900					
Other Income and Deductions	\$757,145					
Total Revenue Offsets	\$4,964,164 ⁽⁷⁾					
Operating Expenses:						
OM+A Expenses	\$38,797,000			\$ 38,797,000		\$38,797,000
Depreciation/Amortization	\$17,128,312			\$ 17,128,312		\$17,128,312
Property taxes						
Other expenses						
3 Taxes/PILs						
Taxable Income:						
Taxable Income	(\$5,793,856) ⁽³⁾					
Adjustments required to arrive at taxable income						
Utility Income Taxes and Rates:						
Income taxes (not grossed up)	\$1,012,461					
Income taxes (grossed up)	\$1,377,498					
Federal tax (%)	15.00%					
Provincial tax (%)	11.50%					
Income Tax Credits	(\$391,600)					
4 Capitalization/Cost of Capital						
Capital Structure:						
Long-term debt Capitalization Ratio (%)	56.0%					
Short-term debt Capitalization Ratio (%)	4.0% ⁽⁸⁾				⁽⁸⁾	
Common Equity Capitalization Ratio (%)	40.0%					
Preferred Shares Capitalization Ratio (%)						
	100.0%					
Cost of Capital						
Long-term debt Cost Rate (%)	2.71%					
Short-term debt Cost Rate (%)	1.65%					
Common Equity Cost Rate (%)	9.19%					
Preferred Shares Cost Rate (%)						

Notes:

General Data inputs are required on Sheets 3. Data from Sheet 3 will automatically complete calculations on sheets 4 through 9 (Rate Base through Revenue Requirement). Sheets 4 through 9 do not require any inputs except for notes that the Applicant may wish to enter to support the results. Pale green cells are available on sheets 4 through 9 to enter both footnotes beside key cells and the related text for the notes at the bottom of each sheet.

- (1) All inputs are in dollars (\$) except where inputs are individually identified as percentages (%)
- (2) Data in column E is for Application as originally filed. For updated revenue requirement as a result of interrogatory responses, technical or settlement conferences, etc., use column M and Adjustments in column I
- (3) Net of addbacks and deductions to arrive at taxable income.
- (4) Average of Gross Fixed Assets at beginning and end of the Test Year
- (5) Average of Accumulated Depreciation at the beginning and end of the Test Year. Enter as a negative amount.
- (6) Select option from drop-down list by clicking on cell M10. This column allows for the application update reflecting the end of discovery or Argument-in-Chief. Also, the outcome of any Settlement Process can be reflected.
- (7) Input total revenue offsets for deriving the base revenue requirement from the service revenue requirement
- (8) 4.0% unless an Applicant has proposed or been approved for another amount.
- (9) The default Working Capital Allowance factor is **7.5%** (of Cost of Power plus controllable expenses), per the letter issued by the Board on June 3, 2015. Alternatively, a WCA factor based on lead-lag study, with supporting rationale could be provided.



Revenue Requirement Workform (RRWF) for 2017 Filers

Rate Base and Working Capital

Line No.	Particulars	Initial Application				Per Board Decision
1	Gross Fixed Assets (average) ⁽²⁾	\$460,593,211	\$ -	\$460,593,211	\$ -	\$460,593,211
2	Accumulated Depreciation (average) ⁽²⁾	(\$196,824,577)	\$ -	(\$196,824,577)	\$ -	(\$196,824,577)
3	Net Fixed Assets (average) ⁽²⁾	\$263,768,634	\$ -	\$263,768,634	\$ -	\$263,768,634
4	Allowance for Working Capital ⁽¹⁾	\$37,977,770	(\$37,977,770)	\$ -	\$ -	\$ -
5	Total Rate Base	\$301,746,404	(\$37,977,770)	\$263,768,634	\$ -	\$263,768,634

(1) Allowance for Working Capital - Derivation

6	Controllable Expenses	\$38,797,000	\$ -	\$38,797,000	\$ -	\$38,797,000
7	Cost of Power	\$399,239,563	\$ -	\$399,239,563	\$ -	\$399,239,563
8	Working Capital Base	\$438,036,563	\$ -	\$438,036,563	\$ -	\$438,036,563
9	Working Capital Rate % ⁽¹⁾	8.67%	-8.67%	0.00%	0.00%	0.00%
10	Working Capital Allowance	\$37,977,770	(\$37,977,770)	\$ -	\$ -	\$ -

Notes

(1) Some Applicants may have a unique rate as a result of a lead-lag study. The default rate for 2017 cost of service applications is 7.5%, per the letter issued by the Board on June 3, 2015.

(2) Average of opening and closing balances for the year.



Revenue Requirement Workform (RRWF) for 2017 Filers

Utility Income

Line No.	Particulars	Initial Application				Per Board Decision
Operating Revenues:						
1	Distribution Revenue (at Proposed Rates)	\$68,212,243	(\$68,212,243)	\$ -	\$ -	\$ -
2	Other Revenue ⁽¹⁾	\$4,964,164	(\$4,964,164)	\$ -	\$ -	\$ -
3	Total Operating Revenues	\$73,176,407	(\$73,176,407)	\$ -	\$ -	\$ -
Operating Expenses:						
4	OM+A Expenses	\$38,797,000	\$ -	\$38,797,000	\$ -	\$38,797,000
5	Depreciation/Amortization	\$17,128,312	\$ -	\$17,128,312	\$ -	\$17,128,312
6	Property taxes	\$ -	\$ -	\$ -	\$ -	\$ -
7	Capital taxes	\$ -	\$ -	\$ -	\$ -	\$ -
8	Other expense	\$ -	\$ -	\$ -	\$ -	\$ -
9	Subtotal (lines 4 to 8)	\$55,925,312	\$ -	\$55,925,312	\$ -	\$55,925,312
10	Deemed Interest Expense	\$4,781,399	(\$4,781,399)	\$ -	\$ -	\$ -
11	Total Expenses (lines 9 to 10)	\$60,706,711	(\$4,781,399)	\$55,925,312	\$ -	\$55,925,312
12	Utility income before income taxes	\$12,469,696	(\$68,395,008)	(\$55,925,312)	\$ -	(\$55,925,312)
13	Income taxes (grossed-up)	\$1,377,498	\$ -	\$1,377,498	\$ -	\$1,377,498
14	Utility net income	\$11,092,198	(\$68,395,008)	(\$57,302,810)	\$ -	(\$57,302,810)

Notes

Other Revenues / Revenue Offsets

(1)	Specific Service Charges	\$1,689,119	\$ -	\$ -	\$ -
	Late Payment Charges	\$1,967,000	\$ -	\$ -	\$ -
	Other Distribution Revenue	\$550,900	\$ -	\$ -	\$ -
	Other Income and Deductions	\$757,145	\$ -	\$ -	\$ -
	Total Revenue Offsets	\$4,964,164	\$ -	\$ -	\$ -

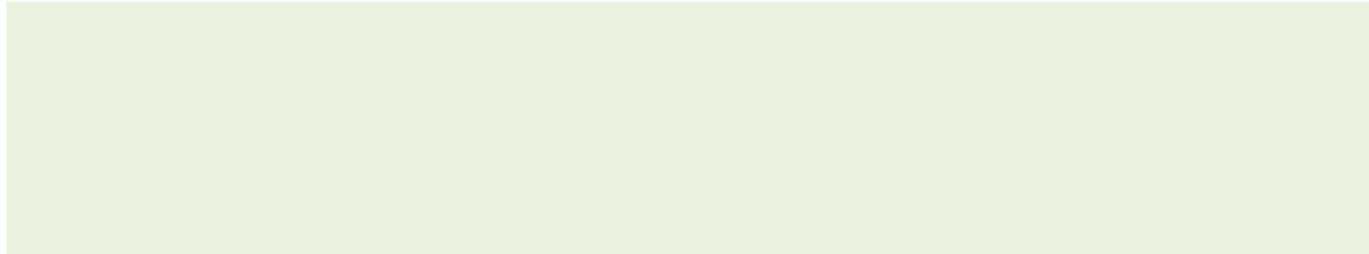


Revenue Requirement Workform (RRWF) for 2017 Filers

Taxes/PILs

Line No.	Particulars	Application		Per Board Decision	
<u>Determination of Taxable Income</u>					
1	Utility net income before taxes	\$11,092,198		\$ -	\$ -
2	Adjustments required to arrive at taxable utility income	(\$5,793,856)		\$ -	\$ -
3	Taxable income	<u>\$5,298,342</u>		<u>\$ -</u>	<u>\$ -</u>
<u>Calculation of Utility income Taxes</u>					
4	Income taxes	<u>\$1,012,461</u>		<u>\$1,012,461</u>	<u>\$1,012,461</u>
6	Total taxes	<u>\$1,012,461</u>		<u>\$1,012,461</u>	<u>\$1,012,461</u>
7	Gross-up of Income Taxes	<u>\$365,037</u>		<u>\$365,037</u>	<u>\$365,037</u>
8	Grossed-up Income Taxes	<u>\$1,377,498</u>		<u>\$1,377,498</u>	<u>\$1,377,498</u>
9	PILs / tax Allowance (Grossed-up Income taxes + Capital taxes)	<u>\$1,377,498</u>		<u>\$1,377,498</u>	<u>\$1,377,498</u>
10	Other tax Credits	(\$391,600)		(\$391,600)	(\$391,600)
<u>Tax Rates</u>					
11	Federal tax (%)	15.00%		15.00%	15.00%
12	Provincial tax (%)	11.50%		11.50%	11.50%
13	Total tax rate (%)	<u>26.50%</u>		<u>26.50%</u>	<u>26.50%</u>

Notes





Revenue Requirement Workform (RRWF) for 2017 Filers

Capitalization/Cost of Capital

Line No.	Particulars	Capitalization Ratio		Cost Rate	Return
		(%)	(\$)	(%)	(\$)
Initial Application					
	Debt				
1	Long-term Debt	56.00%	\$168,977,986	2.71%	\$4,582,246
2	Short-term Debt	4.00%	\$12,069,856	1.65%	\$199,153
3	Total Debt	60.00%	\$181,047,842	2.64%	\$4,781,399
	Equity				
4	Common Equity	40.00%	\$120,698,561	9.19%	\$11,092,198
5	Preferred Shares	0.00%	\$ -	0.00%	\$ -
6	Total Equity	40.00%	\$120,698,561	9.19%	\$11,092,198
7	Total	100.00%	\$301,746,404	5.26%	\$15,873,597
Per Board Decision					
	Debt				
1	Long-term Debt	0.00%	\$ -	0.00%	\$ -
2	Short-term Debt	0.00%	\$ -	0.00%	\$ -
3	Total Debt	0.00%	\$ -	0.00%	\$ -
	Equity				
4	Common Equity	0.00%	\$ -	0.00%	\$ -
5	Preferred Shares	0.00%	\$ -	0.00%	\$ -
6	Total Equity	0.00%	\$ -	0.00%	\$ -
7	Total	0.00%	\$263,768,634	0.00%	\$ -
	Debt				
8	Long-term Debt	0.00%	\$ -	2.71%	\$ -
9	Short-term Debt	0.00%	\$ -	1.65%	\$ -
10	Total Debt	0.00%	\$ -	0.00%	\$ -
	Equity				
11	Common Equity	0.00%	\$ -	9.19%	\$ -
12	Preferred Shares	0.00%	\$ -	0.00%	\$ -
13	Total Equity	0.00%	\$ -	0.00%	\$ -
14	Total	0.00%	\$263,768,634	0.00%	\$ -

Notes



Revenue Requirement Workform (RRWF) for 2017 Filers

Revenue Deficiency/Sufficiency

Line No.	Particulars	Initial Application		Per Board Decision		Per Board Decision	
		At Current Approved Rates	At Proposed Rates	At Current Approved Rates	At Proposed Rates	At Current Approved Rates	At Proposed Rates
1	Revenue Deficiency from Below		\$3,471,450		(\$11,437,210)		\$76,088,860
2	Distribution Revenue	\$64,740,792	\$64,740,793	\$64,740,792	\$79,649,453	\$ -	(\$76,088,860)
3	Other Operating Revenue Offsets - net	\$4,964,164	\$4,964,164	\$ -	\$ -	\$ -	\$ -
4	Total Revenue	<u>\$69,704,956</u>	<u>\$73,176,407</u>	<u>\$64,740,792</u>	<u>\$68,212,243</u>	<u>\$ -</u>	<u>\$ -</u>
5	Operating Expenses	\$55,925,312	\$55,925,312	\$55,925,312	\$55,925,312	\$55,925,312	\$55,925,312
6	Deemed Interest Expense	\$4,781,399	\$4,781,399	\$ -	\$ -	\$ -	\$ -
8	Total Cost and Expenses	<u>\$60,706,711</u>	<u>\$60,706,711</u>	<u>\$55,925,312</u>	<u>\$55,925,312</u>	<u>\$55,925,312</u>	<u>\$55,925,312</u>
9	Utility Income Before Income Taxes	\$8,998,245	\$12,469,696	\$8,815,480	\$12,286,931	(\$55,925,312)	(\$55,925,312)
10	Tax Adjustments to Accounting Income per 2013 PILs model	(\$5,793,856)	(\$5,793,856)	(\$5,793,856)	(\$5,793,856)	\$ -	\$ -
11	Taxable Income	<u>\$3,204,389</u>	<u>\$6,675,840</u>	<u>\$3,021,624</u>	<u>\$6,493,075</u>	<u>(\$55,925,312)</u>	<u>(\$55,925,312)</u>
12	Income Tax Rate	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%
13	Income Tax on Taxable Income	\$849,163	\$1,769,098	\$800,730	\$1,720,665	\$ -	\$ -
14	Income Tax Credits	(\$391,600)	(\$391,600)	(\$391,600)	(\$391,600)	\$ -	\$ -
15	Utility Net Income	<u>\$8,540,682</u>	<u>\$11,092,198</u>	<u>\$8,406,350</u>	<u>(\$57,302,810)</u>	<u>(\$55,925,312)</u>	<u>(\$57,302,810)</u>
16	Utility Rate Base	\$301,746,404	\$301,746,404	\$263,768,634	\$263,768,634	\$263,768,634	\$263,768,634
17	Deemed Equity Portion of Rate Base	\$120,698,561	\$120,698,561	\$ -	\$ -	\$ -	\$ -
18	Income/(Equity Portion of Rate Base)	7.08%	9.19%	0.00%	0.00%	0.00%	0.00%
19	Target Return - Equity on Rate Base	9.19%	9.19%	0.00%	0.00%	0.00%	0.00%
20	Deficiency/Sufficiency in Return on Equity	-2.11%	0.00%	0.00%	0.00%	0.00%	0.00%
21	Indicated Rate of Return	4.41%	5.26%	3.19%	0.00%	-21.20%	0.00%
22	Requested Rate of Return on Rate Base	5.26%	5.26%	0.00%	0.00%	0.00%	0.00%
23	Deficiency/Sufficiency in Rate of Return	-0.85%	0.00%	3.19%	0.00%	-21.20%	0.00%
24	Target Return on Equity	\$11,092,198	\$11,092,198	\$ -	\$ -	\$ -	\$ -
25	Revenue Deficiency/(Sufficiency)	\$2,551,516	\$1	(\$8,406,350)	\$ -	\$55,925,312	\$ -
26	Gross Revenue Deficiency/(Sufficiency)	<u>\$3,471,450 ⁽¹⁾</u>		<u>(\$11,437,210) ⁽¹⁾</u>		<u>\$76,088,860 ⁽¹⁾</u>	

Notes:

⁽¹⁾ Revenue Deficiency/Sufficiency divided by (1 - Tax Rate)



Revenue Requirement Workform (RRWF) for 2017 Filers

Revenue Requirement

Line No.	Particulars	Application		Per Board Decision	
1	OM&A Expenses	\$38,797,000		\$38,797,000	
2	Amortization/Depreciation	\$17,128,312		\$17,128,312	
3	Property Taxes	\$ -			
5	Income Taxes (Grossed up)	\$1,377,498		\$1,377,498	
6	Other Expenses	\$ -			
7	Return				
	Deemed Interest Expense	\$4,781,399		\$ -	
	Return on Deemed Equity	\$11,092,198		\$ -	
8	Service Revenue Requirement (before Revenues)	<u>\$73,176,406</u>		<u>\$57,302,810</u>	
9	Revenue Offsets	\$4,964,164		\$ -	
10	Base Revenue Requirement (excluding Transformer Ownership Allowance credit adjustment)	<u>\$68,212,242</u>		<u>\$57,302,810</u>	
11	Distribution revenue	\$68,212,243		\$ -	
12	Other revenue	\$4,964,164		\$ -	
13	Total revenue	<u>\$73,176,407</u>		<u>\$ -</u>	
14	Difference (Total Revenue Less Distribution Revenue Requirement before Revenues)	<u>\$1</u>	(1)	<u>(\$57,302,810)</u>	(1)

Summary Table of Revenue Requirement and Revenue Deficiency/Sufficiency

	Application		Δ% (2)	Per Board Decision	Δ% (2)
Service Revenue Requirement	\$73,176,406	\$57,302,810	(\$0)	\$57,302,810	(\$1)
Grossed-Up Revenue					
Deficiency/(Sufficiency)	\$3,471,450	(\$11,437,210)	(\$4)	\$76,088,860	(\$1)
Base Revenue Requirement (to be recovered from Distribution Rates)	\$68,212,242	\$57,302,810	(\$0)	\$57,302,810	(\$1)
Revenue Deficiency/(Sufficiency) Associated with Base Revenue Requirement	\$3,471,451	\$ -	(\$1)	\$ -	(\$1)

Notes

- (1) Line 11 - Line 8
 (2) Percentage Change Relative to Initial Application

(\$1)

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-I** should be incorporated into the entries. The inputs should correspond with the summary of the Load Forecast for the Test Year in **Appendix 2-IB** and in Exhibit 3 of the application.

Appendix 2-IB 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			Initial Application			Per Board Decision					
Customer Class		Customer / Connections		kWh	kW/kVA ⁽¹⁾	Customer / Connections		kWh	kW/kVA ⁽¹⁾	Customer / Connections		kWh	kW/kVA ⁽¹⁾
Input the name of each customer class.		Test Year average or mid-year	Annual	Annual	Annual	Test Year average or mid-year	Annual	Annual	Annual	Test Year average or mid-year	Annual	Annual	Annual
1	Residential	142,509		1,068,671,798	-								
2	GS < 50 kW	12,999	2	371,911,863	-								
3	GS > 50 - 4,999 kW	1,611	3	1,486,650,047	3,778,018								
4	Wholesale Market Participant	-		-	-								
5	Co-Generation	4		34,191,555	65,844								
6	Standby	-		-	154,800								
7	Large Use	1		82,923,505	159,628								
8	Street Lights	35,912		19,502,488	54,607								
9	Sentinel Lights	599		706,221	1,907								
10	Unmetered Scattered Load	1,537		5,464,035	-								
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
Total				3,070,021,512									

Notes:

- ⁽¹⁾ Input kW or kVA for those customer classes for which billing is based on demand (kW or kVA) versus energy consumption (kWh)
- 2 Proposed Forecast of 12,686 plus 300 microFIT less 50 FIT
- 3 Proposed Forecast of 1,562 plus 50 FIT

Revenue Requirement Workform (RRWF) for 2017 Filers

Cost Allocation and Rate Design

This spreadsheet replaces **Appendix 2-P** and provides a summary of the results from the Cost Allocation spreadsheet, and is used in the determination of the class revenue requirement and, hence, ultimately, the determination of rates from customers in all classes to recover the revenue requirement.

Stage in Application Process: *Initial Application*

A) Allocated Costs

Name of Customer Class ⁽³⁾	Costs Allocated from Previous Study ⁽¹⁾	%	Allocated Class Revenue Requirement ⁽¹⁾	%
From Sheet 10. Load Forecast				
			(7A)	
1 Residential	\$ 37,252,651	56.17%	\$ 45,620,249	62.34%
2 GS < 50 kW	\$ 9,516,761	14.35%	\$ 7,815,906	10.68%
3 GS > 50 - 4,999 kW	\$ 15,604,675	23.53%	\$ 16,819,055	22.98%
4 Wholesale Market Participant				
5 Co-Generation	\$ 229,772	0.35%	\$ 504,706	0.69%
6 Standby	\$ 580,185	0.87%	\$ 488,876	0.67%
7 Large Use	\$ 1,343,950	2.03%	\$ 606,631	0.83%
8 Street Lights	\$ 1,576,108	2.38%	\$ 1,026,334	1.40%
9 Sentinel Lights	\$ 65,751	0.10%	\$ 84,407	0.12%
10 Unmetered Scattered Load	\$ 156,180	0.24%	\$ 210,241	0.29%
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
Total	\$ 66,326,034	100.00%	\$ 73,176,406	100.00%
		Service Revenue Requirement (from Sheet 9)	\$ 73,176,406.38	

- (1) Class Allocated Revenue Requirement, from Sheet O-1, Revenue to Cost || RR, row 40, from the Cost Allocation Study in this application. This excludes costs in deferral and variance accounts. For Embedded Distributors, Account 4750 - Low Voltage (LV) Costs are also excluded.
- (2) Host Distributors - Provide information on any embedded distributor(s) as a separate class, if applicable. If embedded distributors are billed in a General Service class, include the allocated costs and revenues of the embedded distributor(s) in the applicable class, and also complete Appendix 2-Q.
- (3) Customer Classes - If these differ from those in place in the previous cost allocation study, modify the customer classes to match the proposal in the current application as closely as possible.

B) Calculated Class Revenues

Name of Customer Class	Load Forecast (LF) X current approved rates (7B)	LF X current approved rates X (1+d) (7C)	LF X Proposed Rates (7D)	Miscellaneous Revenues (7E)
1 Residential	\$ 41,010,902	\$ 43,183,365	\$ 43,183,365	\$ 3,393,056
2 GS < 50 kW	\$ 8,801,746	\$ 9,268,000	\$ 9,148,828	\$ 582,345
3 GS > 50 - 4,999 kW	\$ 12,227,162	\$ 12,909,804	\$ 13,042,889	\$ 849,326
4 Wholesale Market Participant				
5 Co-Generation	\$ 371,951	\$ 393,747	\$ 393,747	\$ 13,449
6 Standby	\$ 379,043	\$ 404,042	\$ 404,042	\$ 12,953
7 Large Use	\$ 594,669	\$ 626,170	\$ 626,170	\$ 26,461
8 Street Lights	\$ 1,171,689	\$ 1,233,756	\$ 1,214,842	\$ 72,785
9 Sentinel Lights	\$ 46,914	\$ 49,399	\$ 50,778	\$ 4,135
10 Unmetered Scattered Load	\$ 136,716	\$ 143,958	\$ 147,580	\$ 9,653
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
Total	\$ 64,740,792	\$ 68,212,243	\$ 68,212,243	\$ 4,964,164

- (4) In columns 7B to 7D, LF means Load Forecast of Annual Billing Quantities (i.e., customers or connections, as applicable X 12 months, and kWh, kW or kVA as applicable. Revenue quantities should be net of the Transformer Ownership Allowance for applicable customer classes. Exclude revenues from rate adders and rate riders.
- (5) Columns 7C and 7D - Column Total should equal the Base Revenue Requirement for each.
- (6) Column 7C - The OEB-issued cost allocation model calculates "1+d" on worksheet O-1, cell C22. "d" is defined as Revenue Deficiency/Revenue at Current Rates.
- (7) Column 7E - If using the OEB-issued cost allocation model, enter Miscellaneous Revenues as it appears on worksheet O-1, row 19,

C) Rebalancing Revenue-to-Cost Ratios

Name of Customer Class	Previously Approved Ratios Most Recent Year: 2013 %	Status Quo Ratios (7C + 7E) / (7A) %	Proposed Ratios (7D + 7E) / (7A) %	Policy Range %
1 Residential	109.68%	102.10%	102.10%	85 - 115
2 GS < 50 kW	93.76%	126.03%	124.50%	80 - 120
3 GS > 50 - 4,999 kW	82.67%	81.81%	82.60%	80 - 120
4 Wholesale Market Participant				80 - 120
5 Co-Generation	109.10%	80.68%	80.68%	80 - 120
6 Standby	64.53%	85.30%	85.30%	80 - 120
7 Large Use	115.75%	107.58%	107.58%	85 - 115
8 Street Lights	81.30%	127.30%	125.46%	80 - 120
9 Sentinel Lights	81.06%	63.42%	65.06%	80 - 120
10 Unmetered Scattered Load	82.03%	73.06%	74.79%	80 - 120
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

- (8) Previously Approved Revenue-to-Cost (R/C) Ratios - For most applicants, the most recent year would be the third year (at the latest) of the Price Cap IR period. For example, if the applicant, rebased in 2012 with further adjustments to move within the range over two years, the Most Recent Year would be 2015. However, the ratios in 2015 would be equal to those after the adjustment in 2014.
- (9) Status Quo Ratios - The OEB-issued cost allocation model provides the Status Quo Ratios on Worksheet O-1. The Status Quo means "Before Rebalancing".
- (10) Ratios shown in red are outside of the allowed range. Applies to both Tables C and D.

(D) Proposed Revenue-to-Cost Ratios ⁽¹¹⁾

Name of Customer Class	Proposed Revenue-to-Cost Ratio			Policy Range
	Test Year 2017	Price Cap IR Period		
		2018	2019	
1 Residential	102.10%	102.10%	102.10%	85 - 115
2 GS < 50 kW	124.50%	123.00%	121.50%	80 - 120
3 GS > 50 - 4,999 kW	82.60%	83.39%	84.18%	80 - 120
4 Wholesale Market Participant				80 - 120
5 Co-Generation	80.68%	80.68%	80.68%	80 - 120
6 Standby	85.30%	85.30%	85.30%	80 - 120
7 Large Use	107.58%	107.58%	107.58%	85 - 115
8 Street Lights	1.254588547	123.64%	121.82%	80 - 120
9 Sentinel Lights	0.650573271	66.70%	68.35%	80 - 120
10 Unmetered Scattered Load	0.747865765	76.52%	78.26%	80 - 120
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

(11) The applicant should complete Table D if it is applying for approval of a revenue-to-cost ratio in 2017 that is outside of the OEB's policy range for any customer class. Table D will show that the distributor is likely to enter into the 2018 and 2019 Price Cap IR models, as necessary. For 2018 and 2019, enter the planned revenue-to-cost ratios that will be "Change" or "No Change" in 2017 (in the current Revenue/Cost Ratio Adjustment Workform, Worksheet C1.1 'Decision - Cost Revenue Adjustment, column d), and enter TBD for class(es) that will be entered as 'Rebalance'.



Revenue Requirement Workform (RRWF) for 2017 Filers

New Rate Design Policy For Residential Customers

Please complete the following tables.

A Data Inputs (from Sheet 10. Load Forecast)

Test Year Billing Determinants for Residential Class	
Customers	142,509
kWh	1,068,671,798

Proposed Residential Class Specific Revenue Requirement ¹	\$ 43,183,365.19
--	------------------

Residential Base Rates on Current Tariff	
Monthly Fixed Charge (\$)	16.42
Distribution Volumetric Rate (\$/kWh)	0.0121

B Current Fixed/Variable Split

	Base Rates	Billing Determinants	Revenue	% of Total Revenue
Fixed	16.42	142,509	\$ 28,079,973.36	68.47%
Variable	0.0121	1,068,671,798	\$ 12,930,928.76	31.53%
TOTAL	-	-	\$ 41,010,902.12	-

C Calculating Test Year Base Rates

Number of Remaining Rate Design Policy Transition Years ²	3
--	---

	Test Year Revenue @ Current F/V Split	Test Year Base Rates @ Current F/V Split	Reconciliation - Test Year Base Rates @ Current F/V Split
Fixed	\$ 29,567,448.69	17.29	\$ 29,567,767.32
Variable	\$ 13,615,916.50	0.0127	\$ 13,572,131.83
TOTAL	\$ 43,183,365.19	-	\$ 43,139,899.15

	New F/V Split	Revenue @ new F/V Split	Final Adjusted Base Rates	Revenue Reconciliation @ Adjusted Rates
Fixed	78.98%	\$ 34,106,087.52	\$ 19.94	\$ 34,099,553.52
Variable	21.02%	\$ 9,077,277.67	\$ 0.0085	\$ 9,083,710.28
TOTAL	-	\$ 43,183,365.19	-	\$ 43,183,263.80

Checks ³	
Change in Fixed Rate	\$ 2.65
Difference Between Revenues @ Proposed Rates and Class Specific	(\$101.39)
	0.00%

Notes:

- ¹ The final residential class specific revenue requirement, excluding allocated Miscellaneous Revenues, as shown on Sheet 11. Cost Allocation, should be used (i.e. the revenue requirement after any proposed adjustments to R/C ratios).
- ² The distributor should enter the number of years remaining before the transition to fully fixed rates is completed. A distributor transitioning to fully fixed rates over a four year period and began the transition in 2016 would input the number "3" into cell D40. A distributor transitioning over a five-year period would input the number "4". Where the change in the residential rate design will result in the fixed charge increasing by more than \$4/year, a distributor may propose an additional transition year.
- ³ Change in fixed rate due to rate design policy should be less than \$4. The difference between the proposed class revenue requirement and the revenue at calculated base rates should be minimal (i.e. should be reasonably considered as a rounding error)

Revenue Requirement Workform (RRWF) for 2017 Filers

Rate Design and Revenue Reconciliation

This sheet replaces Appendix 2-V, and provides a simplified model for calculating the standard monthly and volumetric rates based on the allocated class revenues and fixed/variable split resulting from the cost allocation study and rate design and as proposed by the applicant. However, the RRWF does not replace the rate generator model that an applicant distributor may use in support of its application. The RRWF provides a demonstrative check on the derivation of the revenue requirement and on the proposed base distribution rates to recover the revenue requirement, based on summary information from a more detailed rate generator model and other models that applicants use for cost allocation, load forecasting, taxes/PILs, etc.

Stage in Process:		Initial Application				Class Allocated Revenues			Fixed / Variable Splits ²			Distribution Rates				Revenue Reconciliation		
Customer and Load Forecast					From Sheet 11. Cost Allocation and Sheet 12. Residential Rate Design			Percentage to be entered as a fraction between 0 and 1		Transformer Ownership Allowance ¹ (\$)	Monthly Service Charge		Volumetric Rate		MSC Revenues	Volumetric revenues	Distribution Revenues less Transformer Ownership Allowance	
Customer Class	Volumetric Charge Determinant	Customers / Connections	kWh	kW or kVA	Total Class Revenue Requirement	Monthly Service Charge	Volumetric	Fixed	Variable		Rate	No. of decimals	Rate	No. of decimals				
1 Residential	kWh	142,509	1,068,671,798	-	\$ 43,183,365	\$ 34,390,426	\$ 8,792,939	79.64%	20.36%	\$20.11	2	\$0.0082 /kWh	4	\$ 34,390,271.88	\$ 8,763,108.7436	\$ 43,153,380.62		
2 GS < 50 kW	kWh	12,999	371,911,863	-	\$ 9,148,828	\$ 5,128,535	\$ 4,020,294	56.06%	43.94%	\$32.88		\$0.0108 /kWh		\$ 5,128,885.44	\$ 4,016,648.1204	\$ 9,145,533.56		
3 GS > 50 - 4,999 kW	kW	1,611	1,486,650,047	3,778,018	\$ 13,042,889	\$ 3,138,132	\$ 9,904,756	24.06%	75.94%	\$162.33		\$2.7962 /kW		\$ 3,138,163.56	\$ 10,564,095.1572	\$ 13,042,760.88		
4 Wholesale Market Participant	kW	-	-	-	-	-	-	-	-	\$ 659,498		-		\$ -	\$ -	\$ -		
5 Co-Generation	kW	4	34,191,555	65,844	\$ 393,747	\$ 127,200	\$ 266,547	32.30%	67.70%	\$2,650.00		\$4.6482 /kW		\$ 127,200.00	\$ 306,056.0808	\$ 393,749.72		
6 Standby	kW	-	-	154,800	\$ 404,042	\$ -	\$ 404,042	0.00%	100.00%	\$0.00		\$3.2101 /kW		\$ -	\$ 496,923.4800	\$ 404,043.48		
7 Large Use	kW	1	82,923,505	159,628	\$ 626,170	\$ 256,200	\$ 369,970	40.92%	59.08%	\$21,350.00		\$2.3177 /kW		\$ 256,200.00	\$ 369,969.8156	\$ 626,169.82		
8 Street Lights	kW	35,912	19,502,488	54,607	\$ 1,214,842	\$ 738,085	\$ 476,757	60.76%	39.24%	\$1.71		\$8.7307 /kW		\$ 736,914.24	\$ 476,757.3349	\$ 1,213,671.57		
9 Sentinel Lights	kW	599	706,221	1,907	\$ 50,778	\$ 27,086	\$ 23,692	53.34%	46.66%	\$3.77		\$12.4238 /kW		\$ 27,098.76	\$ 23,692.1866	\$ 50,790.95		
10 Unmetered Scattered Load	kWh	1,537	5,464,035	-	\$ 147,580	\$ 41,506	\$ 106,074	28.12%	71.88%	\$2.25		\$0.0194 /kWh		\$ 41,499.00	\$ 106,002.2790	\$ 147,501.28		
11	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
12	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
13	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
14	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
15	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
16	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
17	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
18	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
19	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
20	-	-	-	-	-	-	-	-	-	-		-		\$ -	\$ -	\$ -		
Total Transformer Ownership Allowance										\$ 791,884								
Rates recover revenue requirement																		
															Total Distribution Revenues	\$	68,177,601.88	
															Base Revenue Requirement	\$	68,212,242.38	
															Difference	-\$	34,640.50	
															% Difference		-0.051%	

Notes:

¹ Transformer Ownership Allowance is entered as a positive amount, and only for those classes to which it applies.

² The Fixed/Variable split, for each customer class, drives the "rate generator" portion of this sheet of the RRWF. Only the "fixed" fraction is entered, as the sum of the "fixed" and "variable" portions must sum to 100%. For a distributor that may set the Monthly Service Charge, the "fixed" ratio is calculated as: [MSC x (average number of customers or connections) x 12 months] / (Class Allocated Revenue Requirement).

Revenue Requirement Workform (RRWF) for 2017 Filers

Tracking Form

The first row shown, labelled "Original Application", summarizes key statistics based on the data inputs into the RRWF. After the original application filing, the applicant provides key changes in capital and operating expenses, load forecasts, cost of capital, etc., as revised through the processing of the application. This could be due to revisions or responses to interrogatories. The last row shown is the most current estimate of the cost of service data reflecting the original application and any updates provided by the applicant distributor (for updated evidence, responses to interrogatories, undertakings, etc.)

Please ensure a Reference (Column B) and/or Item Description (Column C) is entered. Please note that unused rows will automatically be hidden and the PRINT AREA set when the PRINT BUTTON on Sheet 1 is activated.

⁽¹⁾ Short reference to evidence material (interrogatory response, undertaking, exhibit number, Board Decision, Code, Guideline, Report of the Board, etc.)

⁽²⁾ Short description of change, issue, etc.

Summary of Proposed Changes

Reference ⁽¹⁾	Item / Description ⁽²⁾	Cost of Capital		Rate Base and Capital Expenditures			Operating Expenses			Revenue Requirement			
		Regulated Return on Capital	Regulated Rate of Return	Rate Base	Working Capital	Working Capital Allowance (\$)	Amortization / Depreciation	Taxes/PILs	OM&A	Service Revenue Requirement	Other Revenues	Base Revenue Requirement	Grossed up Revenue Deficiency / Sufficiency
	Original Application	\$ 15,873,597	5.26%	\$ 301,746,404	\$ 438,036,563	\$ 37,977,770	\$ 17,128,312	\$ 1,377,498	\$ 38,797,000	\$ 73,176,406	\$ 4,964,164	\$ 68,212,242	\$ 3,471,450