Exhibit 7:

COST ALLOCATION

Exhibit 7: Cost Allocation

Tab 1 (of 1): Cost Allocation Model

OVERVIEW OF COST ALLOCATION

History of Greater Sudbury's Cost Allocation

On September 29, 2006, the OEB issued its directions on Cost Allocation Methodology for Electricity Distributors (the "Directions"). On November 15, 2006, the Board issued the Cost Allocation Information Filing Guidelines for Electricity Distributors ("the Guidelines"), the Cost Allocation Model (the "Model") and User Instructions (the "Instructions") for the Model.

Greater Sudbury prepared a cost allocation information filing consistent with Greater Sudbury Hydro Inc's understanding of the Directions, the Guidelines, the Model and the Instructions. Greater Sudbury Hydro Inc. submitted this filing to the OEB on March 7, 2007.

One of the main objectives of the filing was to provide information on any apparent cross subsidization among a distributor's rate classifications.

The 2007 Cost Allocation Study was updated for Greater Sudbury's 2009 Cost of Service filing EB-208-0230. Table 1 below shows the revenue to cost ratios that resulted from that study.

The Board also accepted the Greater Sudbury's proposal to move the Revenue Cost Ratios for both Street Lighting and Sentinel Lighting to 70% over two years[1], 2010 and 2011 to bring them to within the Board's range set out in EB-2007-0667. The Board further agreed with Greater Sudbury's proposal to decrease the GS<50kW, GS>50kW and Unmetered Scattered Load classes by equal percentages, starting from the 2009 ratios and ordered that the Residential Class remain unchanged.

[1] EB-2008-0230 Decision and Order at pg 36

Greater Sudbury confirms that the adjustments to the 2010 and 2011 were made in accordance with the Board's direction.

Table 1 - Revenue to Cost Ratios Implemented in 2009 Rates.

	1	2	3	4	5
Class	Existing Ratios	Ratios corrected for Transformer Ownership (Response to VECC IR 23(c))	Proposed Ratios for 2009	Range Set out by the Board (EB-2007-0667	Draft Rate Order
Residential	94.61%	95.17%	96.95%	85%-115%	96.87%
GS < 50 kW	117.22%	117.97%	110.00%	80%-120%	109.96%
GS > 50 kW	121.08%	118.91%	113.88%	80%-180%	114.10%
Street Lighting	6.53%	6.60%	41.10%	70%-120%	41.29%
Sentinel Lighting	18.28%	18.45%	54.03%	70%-120%	54.17%
Unmetered Scattered Load	221.57%	223.05%	119.31%	80%-120%	119.31%

Greater Sudbury's 2013 Cost Allocation Study.

The Board issued a *Report of the Board - Review of Electricity Distribution Cost allocation Policy* dated March 31, 2011 followed by Board Staff issuing a *Staff Report to the Board - Implementation of the Revisions to the Board's Electricity Distributor Cost Allocation Policy* Dated August 4 2011. The purpose of these reports was to develop specific changes to version 2 of the Cost Allocation Model. Greater Sudbury has used the direction of the Reports in completing the cost allocation model for the 2013 submission. Version 3 of the OEB model has been updated with the 2013 Test Year costs, annual loads and customer numbers. The hourly load profiles prepared by Hydro One for the 2006 Cost Allocation Informational Filing were used for the 2013 submission and were

justified to be appropriate in the Elenchus "Report on Cost Allocation" filed at Exhibit 7, Tab 1, Schedule 1, Attachment 1.

Weighting Factors

Section 2.6.4 of the March 2011 Board Report indicated the "default weighting factors should be utilized only in exceptional circumstances. Therefore, Greater Sudbury undertook to determine the appropriate weighting factors to be used in the current cost allocation model, and the results are presented in Tables 2 and 3, along with the original OEB default weighting factors.

Weighting Factor for Services

The analysis for the Services weighting factor included a review of the internal policy in regard to the installation and cost recovery for services. The policy for Greater Sudbury is to charge customers other than residential customers for the cost of their service such that there are no service costs being booked to account 1855 for non-residential customers. As such the weighting factor for residential customers is 1 and for all other classes it is nil.

Table 2 – Weighting Factors for Services

	Residential	GS < 50 kW	GS > 50 kW	Street Light	Sentinel	Unmetered Scattered Load
Greater Sudbury 2013 Weighting Factors	1	0	0	0	0	0
Prior OEB Default Weighting Factors	1	2	10	10	1	1

Weighting Factors for Billing and Collecting

In determining the weighting factors for Billing and Collecting an analysis of the relative complexity of producing a bill was reviewed. Work processes and efforts were reviewed with billing staff and it was determined that overall the difference in the amount of effort across the various rate classes was negligible and as such a common factor of 1.0 was applied to all rate classes.

Similarly weighting factors for meter reading will also be the same given the fact all meter reads will be available electronically.

Table 3 – Weighting Factors for Billing and Collecting

	Residential	GS < 50 kW	GS > 50 kW	Street Light	Sentinel	Unmetered Scattered Load
Greater Sudbury 2013 Weighting Factors	1.0	1.0	1.0	1.0	1.0	1.0
Prior OEB Default Weighting Factors	1.0	2.0	7.0	1.0	0.1	5.0

Cost Allocation Results

The data used by Greater Sudbury is consistent with the cost and load data proposed for the 2013 Test Year revenue requirement. The resulting revenue-to-cost ratios from the cost allocation model are detailed in Table 4 below.

Table 4 – Initial Revenue to Cost Ratios

Customer Class	Service Revenue Requirement	%	Miscellaneous Revenue (mi)	%	Base Revenue Requirement	%	Revenue to Expenses
Residential	16,056,242	63.96%	1,075,603	69.39%	14,980,639	63.60%	92.04%
General Service < 50 kW	3,309,627	13.18%	191,135	12.33%	3,118,492	13.24%	121.37%
General Service > 50 kW	4,862,853	19.37%	220,805	14.25%	4,642,048	19.71%	112.39%
Unmetered Scattered Load	43,263	0.17%	3,497	0.23%	39,766	0.17%	130.37%
Sentinel Lighting	47,618	0.19%	3,880	0.25%	43,738	0.19%	83.24%
Street Lighting	785,187	3.13%	55,108	3.56%	730,079	3.10%	95.37%
TOTAL	**25,104,790**		**1,550,028**		**23,554,762**		

As noted in Table 4, the results for the General Service < 50 kW indicate a revenue-to-cost ratio of 121.37% which is outside the Board's required range. As well, the Unmetered Scattered Load results of 130.37% are outside of the approved range.

Greater Sudbury proposes to adjust the revenue-to-cost ratios for these two classes downwards to bring the USL class to the top end of the Board approved range and the General Service < 50 class closer to the target of 100%.

The revised revenue-to-cost ratios after the above noted re-balance are shown in Table 5 below.

Table 5 – Proposed Revenue to Cost Ratios

Customer Class	Rate Application Service Revenue Requirement	Costs per Cost Allocation Model	2013 Proposed Revenue to Cost Ratio	OEB Floor Target	OEB Ceiling Target
Residential	14,823,070	16,056,242	0.9232	0.85	1.15
General Service < 50 kW	3,391,552	3,309,627	1.0248	0.80	1.20
General Service > 50 kW	5,465,468	4,862,853	1.1239	0.80	1.20
Unmetered Scattered Load	51,916	43,263	1.2000	0.80	1.20
Sentinel Lighting	43,961	47,618	0.9232	0.80	1.20
Street Lighting	748,821	785,187	0.9537	0.70	1.20
TOTAL	**24,524,788**	**25,104,790**			

The OEB Appendix 2-P is presented as Exhibit 7, Tab 1, Schedule 1, Attachment 3.

The following output sheets are provided as Exhibit 7, Tab 1, Schedule 1, Attachment 2 as requested in the Board's filing guidelines and an excel version of the entire cost allocation model will be filed.

- Sheet I6.1 Revenue
- Sheet 16.2 Customer Data
- Sheet I8 Demand Data
- Sheet O1 Revenue-to-Cost Ratios
- Sheet O2 Fixed Charge Floor/Ceiling

Greater Sudbury Hydro Inc.
2013 Cost Allocation Study

A Report Prepared by
Elenchus Research Associates Inc.

On Behalf of
Greater Sudbury Hydro Inc.

November 7, 2012

elenchus

Table of Contents

1 INTRODUCTION

Greater Sudbury Hydro Inc. ("Sudbury") has prepared its 2013 EDR Application as a cost of service rate application based on a forward test year. The relevant filing requirements for this Application are set out in Chapter 2 of the June 28, 2012 update to the document entitled *Ontario Energy Board, Filing Requirements for Electricity Transmission and Distribution Applications* ("Filing Requirements").

Section 2.10 of the Filing Requirements sets out the expectations of the Board with respect to Exhibit 7: Cost Allocation. The Filing Requirements state:

> *A completed cost allocation study using the Board approved methodology must be filed. This filing must reflect future loads and costs and be supported by appropriate explanations and live Excel spreadsheets. The 2011 update of the model issued by the Board will be available on the Board's web site.*

Sudbury asked Elenchus Research Associated (Elenchus)[1] to assist it by preparing an appropriate cost allocation study for its 2013 cost of service rate application. In addressing this issue, Elenchus was guided by the Filing Requirements and the November 28, 2007 *Report of the Board, Application of Cost Allocation for Electricity Distributors* (EB-2007-0667) ("CA Application Report") which "sets out the Board's policies in relation to specific cost allocation matters for electricity distributors".[2]

The CA Application Report observes at page 2 that:

> *The Board is cognizant of factors that currently limit or otherwise affect the ability or desirability of moving immediately to a cost allocation framework that might, from a theoretical perspective, be considered the ideal. These influencing factors include data quality issues and limited modelling experience, and are discussed in greater detail in section 2.3 of this Report.*

The "influencing factors" discussed in section 2.3 of the report are:

- **Quality of the data:** The Board notes "that accounting and load data can be improved." (p. 5)

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[1] John Todd, President of Elenchus Research Associates, was the lead consultant for the development and implementation of the methodology used by Sudbury and documented in this report. John Todd's curriculum vitae is available at www.elenchus.ca.

[2] Ontario Energy Board, *Report of the Board, Application of Cost Allocation for Electricity Distributors* (EB-2007-0667), November 28, 2007, page 1.

- **Limited modelling experience:** The Board observed that "the cost allocation model is complex, and the data required for the model was not always readily available for modelling." (p. 6)
- **Status of current rate classes:** The Board points out that "Any changes in customer classification or load data could have a significant impact on future cost allocation studies" (p. 6).
- **Managing the movement of rates closer to allocated costs:** The Board notes:

> *The Board considers it appropriate to avoid premature movement of rates in circumstances where subsequent applications of the model or changes in circumstances could lead to a directionally different movement. Rate instability of this nature is confusing to consumers, frustrates their energy cost planning and undermines their confidence in the rate making process. (p. 6)*

In utilizing the Board's cost allocation model for Sudbury's 2013 cost allocation study, Elenchus has been cognizant of these "influencing factors" as they apply to Sudbury.

1.1 PURPOSE OF THE COST ALLOCATION STUDY

In the context of a cost of service rate application based on a 2013 forward test year, the primary purpose of the cost allocation study ("CA Study") is to determine the proportions of a distributor's total revenue requirement that are the "responsibility" of each rate class.

In addition, cost allocation studies provide revenue to cost ratios for each customer class that can be examined to ensure that they generally fall within the Board-specified ranges (or move toward those ranges where appropriate to mitigate rate impacts) and generally are not moving away from 100%.

Conceptually, the desired results can be achieved in either of two ways.

- **Prospective Year CA Study:** A cost allocation study for the 2013 test year can be based on an allocation of the 2013 test year costs (i.e., the 2013 forecast revenue requirement) to the various customer classes using allocators that are based on the forecast class loads (kW and kWh) by class, customer counts, etc. By definition, this approach will result in a total revenue to cost ratio at proposed

rates of 100%. Assuming there is a revenue deficiency for the test year, the total revenue to cost ratio at current rates will be somewhat below 100%.

- **Historic Year CA Study:** As an alternative, an historic year cost allocation study can be prepared that determines the proportion of costs allocated to each class for the most recent historic year. In the case, the CA Study will rely on actual costs, weather adjusted loads, customer counts, etc. that are not affected by forecast errors. Assuming the costs and loads are relatively stable so that the proportionate cost responsibility of each rate class in the historic year is a reasonable proxy for the 2013 test year cost responsibility, the resulting proportionate cost responsibilities can be used to allocate the 2013 revenue requirement to the various classes.

The Sudbury CA Study uses the first of these methods in order to ensure compliance with the Board's direction in the Filing Requirements that the CA Study should "reflect future loads and cost". Relying on a Prospective Year CA Study is also appropriate at this time since the Ontario economy has suffered over the past three years and, as a result, many distributors have experienced significant changes in the load profiles of their customer classes. These changes could have a significant impact on the allocation of costs to the classes and the resulting revenue to cost ratios. This approach implicitly assumes that the economic recovery will be slow and, as a result, the relative loads of customer classes are more likely to reflect 2013 loads than 2011 loads during the next IRM cycle.

1.2 SUDBURY'S 2009 COST ALLOCATION INFORMATION FILING

Sudbury has not filed a new cost allocation, and asked Elenchus to prepare its 2013 cost allocation from scratch. The last cost allocation study filed by Sudbury was in 2008 in Proceeding EB-2008-0230 and was based on the 2006 Informational. The 2013 model was performed in accordance with the internal documentation in the v 3 Cost Allocation Model (CA Model).

Sudbury's 2009 CAIF relied on the Board's 2006 Cost Allocation Model ("CA Model") and was prepared in accordance with the September 29, 2006 Board report entitled

Cost Allocation: Board Directions on Cost Allocation Methodology for Electricity Distributors ("the Directions"), the subsequent (November 15, 2006) *Cost Allocation Informational Filing Guidelines for Electricity Distributors* ("the Guidelines"), and the *Cost Allocation Review: User Instruction for the Cost Allocation Model for Electricity Distributors* ("the Instructions").

1.3 STRUCTURE OF THE REPORT

The remainder of this report is divided into three additional sections. Section 2 provides an overview of the Sudbury CA Study, explaining the model run included in the study, as well as the load and cost information used for the run. Section 3 explains the methodology used to develop the 2013 Sudbury model by documenting each step taken in completing the model. Section 4 summarizes the results of the Sudbury CA Study, showing the class revenue requirements and revenue to cost ratios generated by the CA model.

2 OVERVIEW OF THE SUDBURY 2013 CA STUDY

2.1 MODEL RUN INCLUDED IN THE SUDBURY COST ALLOCATION STUDY

Section 2.10.3 of the updated Filing Requirements specifies that the third table in Appendix 2-P, "...includes the following information for each class" that should be provided based on:

- "The previously approved ratios most recently implemented by the distributor;
- "The ratios that would result from the most recent approved distribution rates and the distributor's forecast of billing quantities in the test year, prorated upwards or downwards (as applicable) to match the revenue requirement, expressed as a ratio with the class revenue requirements derived in the updated cost allocation model; and
- "The ratios that are proposed for the Test Year, which are the proposed class revenues, together with the updated cost allocation model" which is the appropriate 2013 model.

For clarity, the following designations are used.

- **Sudbury-2009**: The Sudbury 2009 revenue to cost ratios.
- **Sudbury-2013:** The version 3 CA Model with 2013 loads, costs, and revenues.

2.2 LOAD AND CUSTOMER INFORMATION

The updated Filing Requirements specify that "This filing must reflect future loads and costs..." and "If updated load profiles are not available, the load profiles of the classes may be the same as those provided by Hydro One for use in the Informational Filing, scaled to match the load forecast as it relates to the respective rate classes", (Section 2.10.1, p. 42)

The Sudbury 2013 model has been prepared using the following load and load profile information:

- **Annual Loads (kW and kWh, as appropriate) and customer counts:** The 2013 load forecast and customer counts by class being used by Sudbury in its application were also used for the 2013 CA models. Sudbury's load forecast was prepared by Elenchus.

- **Hourly load profile:** The hourly load profiles prepared by Hydro One for the 2006 CAIF was used for all classes except the GS > 50 class. Actual 2011 customer data were used to develop updated load profile for that class. Several customers have experienced significant changes in their load profile since 2004. Updating of the hourly load profile for this class was necessary because these customers represent a large enough portion of the overall class demand to materially impact the load profile for the class. Actual 2004 and 2011 data is available for all of these customers, and the hourly load for these customers does not require weather adjustment making it a straightforward task to determine the updated hourly load shape of this class in a manner that is consistent with the Hydro One methodology.

The hourly load profiles provided by Hydro One for all of the remaining classes for the 2006 model were considered to be appropriate for use in the 2013 models for the following reasons.

1. Elenchus explored alternatives for updating the hourly load profiles by rate class comparable to the estimated load profiles that Hydro One prepared for the LDCs for their 2006 CA Models. Hydro One advised that they no longer have the capacity to produce a significant number of LDC-specific hourly load profiles. As far as Elenchus is aware, no other entity has the necessary information and models to produce comparable quality hourly load profiles for Ontario LDCs. It therefore was not practical for distributors to update their hourly load profiles by class except in exceptional circumstances.

2. There would be little point in investing in updated load profiles without also investing in updated saturation surveys for the residential class in each service area. These are expensive and time consuming to undertake as they involve a survey of a statistically significant sample of customers.

3. With the widespread rollout of smart meters and the collection of smart meter data, Ontario distributors will have better hourly load profile by class data than the Hydro One estimates. Unless there is evidence of a significant change in circumstances, investing in new hourly load profile by class estimates would be a questionable use of ratepayer funds when superior hourly load profile information will be available in the next few years at minimal incremental cost.

4. Both time-of-use commodity pricing and changes to the design of distribution rates can be expected to alter the hourly load profiles of the affected classes.

5. The 2006 hourly load profiles were based on 2004 actual loads and updated hourly load profiles would be based on 2011 actual loads.

2.3 COST INFORMATION

As noted earlier, Elenchus' preferred methodology for preparing 2013 cost allocation models is to use the prospective 2013 test year as the basis for the CA Study, assuming appropriate expense and asset information is available for the 2013 test year. In the case of Sudbury, the financial information for the forecast year has been prepared at the USoA level consistent with the level of detail embedded in the OEB's cost allocation model. [3]

[3] Some information (i.e., meter counts and some amortization detail) that is used in the Board's CA Model is not explicitly forecasted for the test year. These values were estimated using scaling factors based on prior year ratios. For example, the ratio of meters to customers was assumed to be constant. The portion of the total costs accounted for in this manner was too small for any plausible estimation errors to have a significant impact on the test year revenue to cost ratios.

3 SUDBURY COST ALLOCATION STUDY METHODOLOGY

This section documents Elenchus' methodology for the Sudbury Cost Allocation Study, the 2013 CA Model.

3.1 2013 SUDBURY CA MODEL

3.1.1 HOURLY LOAD PROFILE (HONI FILE)

For the Sudbury CAIF, HONI provided data files with three worksheets that were to be used as input to the 2006 CAIF:

- **Data Summary:** actual and weather normalized monthly kWh by class, disaggregated by weather sensitive and non-weather sensitive load for relevant classes.
- **Hourly Load Shape by Class:** GWh by class for each hour in 2004.
- **Input to Cost Allocation Model**: The 1CP, 4CP, 12CP, 1NCP, 4NCP, 12NCP allocators are derived from the hourly load profiles.

The Sudbury hourly load shapes derived by Hydro One for the 2006 CAIF were not updated. However, the demand allocators derived by Hydro One for the 2006 CAIF were revised to reflect changes in the relative loads for the classes from 2004 to 2013. This was done by scaling the hourly load profiles of each class on the Hourly Load Shape by Class worksheet of the HONI file to levels consistent with the 2013 load forecast while maintaining the hourly load shapes.

For the GS > 50 customer class, 2011 actual interval hourly data was used in preparing an updated hourly load shape.

3.1.2 DEMAND ALLOCATORS (HONI FILE)

The demand allocators used in the Sudbury-2013 CA model were derived using the same methodology as Hydro One used for the 2006 file; however, they were re-determined using the forecast 2013 hourly load profiles resulting from the preceding

step. Using the 2013 hourly load profiles by class, the 12 monthly coincident and non-coincident peaks for the rate classes were determined on the Hourly Load Shape by Rate Class worksheet. The allocators were then derived as follows.

- The 1, 4 and 12 NCP values for each class were calculated by selecting the peak in the year (1 NCP), summing the four highest monthly peaks (4 NCP) and summing the 12 monthly peaks for each class (12 NCP), respectively.
- The total 1, 4 and 12 NCP values are the totals of the corresponding class NCP values.
- The 1, 4 and 12 CP values for each class were derived by identifying the hour in each month when the coincident peak occurred and then selecting the peak in the year (1 CP), adding the demands during the four highest coincident peak hours (4 CP) and summing the demand for each class during the 12 monthly coincident peak hours (12 CP), respectively.
- The total 1, 4 and 12 CP values are the totals of the corresponding class CP values, which are the values used to identify the relevant coincident peak hours.

3.1.3 2013 Demand Data (Sudbury-2013 Model)

The demand allocators derived in the updated Hydro One file as described in the preceding section were input at the appropriate cells at sheet I8 Demand Data of the 2013 Sudbury CA Model. However, the Line Transformer and Secondary 1NCP, 4NCP and 12NCP values (rows 57-58, 63-64, 69-70) for Residential, GS < 50, and GS > 50 customer classes are not equal to the full class NCP values since not all customers in these customer classes use these facilities. The Line Transformer and Secondary 1NCP, 4NCP and 12NCP values were therefore determined from the full load data NCP values using the ratio of values in the 2006 CA Model.

3.1.4 2013 Customer Data (Sudbury-2013 Model)

The 30 year weather normalized kWh by rate class which was an input from the Hydro One file at Sheet I6 Customer Data row 27 in the 2006 CA model was replaced with the 2013 load forecast in the 2013 CA Model at Sheet I6.1 Revenue row 50.

In addition, the demand data (kW and kWh) in rows 25, 26, and 27 of Sheet I6.1 Revenue were replaced with the forecasted values. Row 27 was scaled by the percentage change in row 26.

The 2013 Distribution Revenue in row 39 was derived using the forecast demand (kW and kWh) and customer counts by rate class and the existing 2012 rates.

3.1.5 2013 Revenue to Cost Ratios

Since Sudbury is proposing to set rates that recover its full revenue requirement, the total revenue to cost ratio at proposed rates will be 100% in 2013. The 2013 total revenue to cost ratio at current rates is less than 100% by the amount of the required rate increase. The revenue to cost ratios of the classes reflect the costs allocated to the classes based on the OEB CA Model methodology and the revenues that would be generated at current rates given the forecast demand (kW and kWh) and customer counts by rate class for 2013.

4 SUMMARY OF REVENUE TO COST RATIOS

The class revenue-to-cost ratios as determined in the Sudbury cost allocation models are shown in Table 7, below.

Table 7: Revenue to Cost Ratios

Customer Class	Sudbury-2009	Sudbury-2013 Status Quo Rates	Board Target Range
Residential	95.17	92.04	85-115
GS < 50 kW	117.97	121.37	80-120
GS > 50 kW Regular	118.91	112.39	80-120
Street Lighting	6.60	95.37	70-120
Sentinel Light	18.45	83.24	80-120
USL	223.05	130.37	80-120
Total	100.00	100.00	

The Sudbury-2013 ratios (at current rates) reflect the impact of changes in throughput by class as well as changes in costs from 2006 through the 2013 forecast test year.

Table 8 presents the revenue responsibility (i.e., allocation of the total revenue requirement to the rate classes) in each of the models. This revenue responsibility is presented in both dollar and percentage terms.

Table 8: Revenue Responsibility by Rate Class

Customer Class	Sudbury-2009		Sudbury-2013	
	$	%	$	%
Residential	12,265,368	59.65	16,056,242	63.96
GS < 50 kW	3,045,667	14.81	3,309,627	13.18
GS > 50 kW Regular	4,312,464	20.97	4,862,853	19.37
Street Lighting	844,907	4.11	785,187	3.13
Sentinel Light	46,633	0.23	47,618	0.19
USL	46,696	0.23	43,263	0.17
Total	20,561,734	100.00	25,104,790	100.00

5 FIXED CHARGE RATES

The Sudbury cost allocation model produced the following customer unit cost per month values:

Table 9: 2013 Customer Unit Cost per Month

Customer Class	Avoided Cost	Directly Related	Minimum System with PLCC[4] Adjustment
Residential	7.64	9.56	17.29
GS < 50 kW	11.25	13.89	19.32
GS > 50 kW Regular	30.00	37.77	44.39
Street Lighting	0.91	1.16	6.33
Sentinel Light	2.50	3.19	8.84
USL	3.03	3.86	7.69

In accordance with Board policy,[5] the following boundary values would apply for the fixed monthly service charge:

Table 10: 2013 Fixed Charge Boundary Values

Customer Class	Cost Allocation		Existing Rate	Boundary Values	
	Low	High		Minimum	Maximum
Residential	7.64	17.29	16.14	7.64	17.29
GS < 50 kW	11.25	19.32	21.55	11.25	21.55
GS > 50 kW Regular	30.00	44.39	164.49	30.00	164.49
Street Lighting	0.91	6.33	3.72	0.91	6.33
Sentinel Light	2.50	8.84	3.71	2.50	8.84
USL	3.03	7.69	8.05	3.03	8.05

[4] PLCC: 'Peak Load Carrying Capacity'
[5] Ontario Energy Board, *Report of the Board, Application of Cost Allocation for Electricity Distributors* (EB-2007-0667), November 28, 2007, pages 12-13

Sheet I6.1 Revenue Worksheet -

Total kWhs from Load Forecast	938,592,881

Total kWs from Load Forecast	992,632

Deficiency from RRWF	- 844,288

Miscellaneous Revenue	1,550,028

			1	2	3	7	8	9
	ID	**Total**	**Residential**	**GS <50**	**GS>50-Regular**	**Street Light**	**Sentinel**	**Unmetered Scattered Load**
Billing Data								
Forecast kWh	**CEN**	938,592,881	401,373,120	141,856,898	385,479,346	7,985,224	460,643	1,437,650
Forecast kW	**CDEM**	992,632			969,057	22,306	1,269	
Forecast kW, included in CDEM, of customers receiving line transformer allowance		217,000			217,000			
Optional - Forecast kWh, included in CEN, from customers that receive a line transformation allowance on a kWh basis. In most cases this will not be applicable and will be left blank.		-						
KWh excluding KWh from Wholesale Market Participants	**CEN EWMP**	938,592,881	401,373,120	141,856,898	385,479,346	7,985,224	460,643	1,437,650
kWh - 30 year weather normalized amount		938,592,881	401,373,120	141,856,898	385,479,346	7,985,224	460,643	1,437,650
Existing Monthly Charge			$16.14	$21.55	$164.49	$3.72	$3.71	$8.05
Existing Distribution kWh Rate			$0.0124	$0.0186				$0.0123
Existing Distribution kW Rate					$4.2709	$10.8171	$11.8706	
Existing TFOA Rate					$0.60			
Additional Charges								
Distribution Revenue from Rates		$22,840,672	$13,210,751	$3,688,713	$5,186,876	$668,848	$34,475	$51,010
Transformer Ownership Allowance		$130,200	$0	$0	$130,200	$0	$0	$0
Net Class Revenue	**CREV**	$22,710,472	$13,210,751	$3,688,713	$5,056,676	$668,848	$34,475	$51,010
Data Mismatch Analysis								
Revenue with 30 year weather normalized kWh		22,710,472	13,210,751	3,688,713	5,056,676	668,848	34,475	51,010

Weather Normalized Data from Hydro One	**Total**	**Residential**	**GS <50**	**GS>50-Regular**	**Street Light**	**Sentinel**	**Unmetered Scattered Load**
kWh - 30 year weather normalized amount	989,276,897	423,047,268	149,517,170	406,295,231	8,416,426	485,518	1,515,283
Loss Factor		1.0540	1.0540	1.0540	1.0540	1.0540	1.0540

2013 Cost Allocation Model

Sheet I6.2 Customer Data Worksheet -

			1	2	3	7	8	9
	ID	Total	Residential	GS <50	GS>50-Regular	Street Light	Sentinel	Unmetered Scattered Load
Billing Data								
Bad Debt 3 Year Historical Average	BDHA	$280,472	$230,730	$40,221	$9,278	$0	$243	$0
Late Payment 3 Year Historical Average	LPHA	$95,957	$59,000	$16,648	$20,309			
Number of Bills	CNB	381,536	340,096	32,488	6,372	48	1,234	1,298
Number of Devices								
Number of Connections (Unmetered)	CCON	10,359				9,578	436	345
Total Number of Customers	CCA	47,450	42,512	4,061	531	4	126	216
Bulk Customer Base	CCB	-						
Primary Customer Base	CCP	47,450	42,512	4,061	531	4	126	216
Line Transformer Customer Base	CCLT	47,307	42,512	3,958	491	4	126	216
Secondary Customer Base	CCS	45,514	42,512	2,656		4	126	216
Weighted - Services	CWCS	42,512	42,512	-	-	-	-	-
Weighted Meter -Capital	CWMC	6,326,606	4,578,542	1,163,964	584,100	-	-	-
Weighted Meter Reading	CWMR	6,372	-	-	6,372	-	-	-
Weighted Bills	CWNB	381,536	340,096	32,488	6,372	48	1,234	1,298

Bad Debt Data

Historic Year:	2009	182,562	152,296	15,161	15,106		-	
Historic Year:	2010	246,330	207,570	38,756	-		4	
Historic Year:	2011	412,524	332,324	66,745	12,730		725	
Three-year average		**280,472**	**230,730**	**40,221**	**9,278**	**-**	**243**	**-**

2013 Cost Allocation Model

Sheet I8 Demand Data Worksheet -

This is an input sheet for demand allocators.

CP TEST RESULTS	4 CP
NCP TEST RESULTS	4 NCP

Co-incident Peak	Indicator
1 CP	CP 1
4 CP	CP 4
12 CP	CP 12

Non-co-incident Peak	Indicator
1 NCP	NCP 1
4 NCP	NCP 4
12 NCP	NCP 12

Customer Classes		Total	1 Residential	2 GS <50	3 GS>50-Regular	7 Street Light	8 Sentinel	9 Unmetered Scattered Load
CO-INCIDENT PEAK								
1 CP								
Transformation CP	TCP1	183,723	90,145	27,581	63,875	1,854	107	161
Bulk Delivery CP	BCP1	183,723	90,145	27,581	63,875	1,854	107	161
Total Sytem CP	DCP1	183,723	90,145	27,581	63,875	1,854	107	161
4 CP								
Transformation CP	TCP4	686,143	350,047	99,136	228,671	7,207	416	666
Bulk Delivery CP	BCP4	686,143	350,047	99,136	228,671	7,207	416	666
Total Sytem CP	DCP4	686,143	350,047	99,136	228,671	7,207	416	666
12 CP								
Transformation CP	TCP12	1,734,753	790,456	295,883	635,834	10,021	578	1,981
Bulk Delivery CP	BCP12	1,734,753	790,456	295,883	635,834	10,021	578	1,981
Total Sytem CP	DCP12	1,734,753	790,456	295,883	635,834	10,021	578	1,981
NON CO_INCIDENT PEAK								
1 NCP								
Classification NCP from Load Data Provider	DNCP1	201,920	100,652	32,700	66,428	1,861	107	172
Primary NCP	PNCP1	201,920	100,652	32,700	66,428	1,861	107	172
Line Transformer NCP	LTNCP1	195,528	100,101	31,870	61,417	1,861	107	172
Secondary NCP	SNCP1	118,271	94,748	21,383	-	1,861	107	172
4 NCP								
Classification NCP from Load Data Provider	DNCP4	753,085	370,241	123,685	250,638	7,426	428	667
Primary NCP	PNCP4	753,085	370,241	123,685	250,638	7,426	428	667
Line Transformer NCP	LTNCP4	729,010	368,213	120,544	231,732	7,426	428	667
Secondary NCP	SNCP4	437,926	348,525	80,880	-	7,426	428	667
12 NCP								
Classification NCP from Load Data Provider	DNCP12	1,921,449	861,678	331,889	702,348	22,253	1,284	1,997
Primary NCP	PNCP12	1,921,449	861,678	331,889	702,348	22,253	1,284	1,997
Line Transformer NCP	LTNCP12	1,855,322	856,958	323,461	649,369	22,253	1,284	1,997
Secondary NCP	SNCP12	1,053,700	811,137	217,029	-	22,253	1,284	1,997

2013 Cost Allocation Model

Sheet O1 Revenue to Cost Summary Worksheet -

Instructions:
Please see the first tab in this workbook for detailed instructions

Class Revenue, Cost Analysis, and Return on Rate Base

Rate Base Assets		Total	1 Residential	2 GS <50	3 GS>50-Regular	7 Street Light	8 Sentinel	9 Unmetered Scattered Load
crev	Distribution Revenue at Existing Rates	$22,710,472	$13,210,751	$3,688,713	$5,056,676	$668,848	$34,475	$51,010
mi	Miscellaneous Revenue (mi)	$1,550,028	$1,075,603	$191,135	$220,805	$55,108	$3,880	$3,497
		Miscellaneous Revenue Input equals Output						
	Total Revenue at Existing Rates	$24,260,500	$14,286,353	$3,879,848	$5,277,481	$723,956	$38,355	$54,507
	Factor required to recover deficiency (1 + D)	1.0372						
	Distribution Revenue at Status Quo Rates	$23,554,763	$13,701,877	$3,825,845	$5,244,664	$693,713	$35,756	$52,906
	Miscellaneous Revenue (mi)	$1,550,028	$1,075,603	$191,135	$220,805	$55,108	$3,880	$3,497
	Total Revenue at Status Quo Rates	$25,104,790	$14,777,480	$4,016,980	$5,465,469	$748,821	$39,637	$56,403
	Expenses							
di	Distribution Costs (di)	$7,475,180	$4,294,954	$1,033,484	$1,844,922	$277,916	$12,718	$11,187
cu	Customer Related Costs (cu)	$4,750,237	$3,922,087	$512,184	$183,368	$105,632	$13,926	$13,039
ad	General and Administration (ad)	$3,339,201	$2,244,369	$422,177	$553,999	$104,761	$7,278	$6,617
dep	Depreciation and Amortization (dep)	$3,876,865	$2,269,427	$562,052	$924,072	$111,453	$5,149	$4,712
INPUT	PILs (INPUT)	$201,660	$118,412	$27,765	$48,302	$6,603	$304	$274
INT	Interest	$2,248,499	$1,320,283	$309,576	$538,567	$73,619	$3,393	$3,060
	Total Expenses	$21,891,642	$14,169,532	$2,867,237	$4,093,230	$679,984	$42,769	$38,890
	Direct Allocation	$0	$0	$0	$0	$0	$0	$0
NI	Allocated Net Income (NI)	$3,213,148	$1,886,710	$442,389	$769,623	$105,203	$4,849	$4,373
	Revenue Requirement (includes NI)	$25,104,790	$16,056,242	$3,309,627	$4,862,853	$785,187	$47,618	$43,263
		Revenue Requirement Input equals Output						
	Rate Base Calculation							
	Net Assets							
dp	Distribution Plant - Gross	$188,272,430	$109,682,744	$26,320,297	$44,891,201	$6,789,056	$311,923	$277,208
gp	General Plant - Gross	$15,490,818	$9,043,036	$2,148,937	$3,712,562	$539,200	$24,831	$22,251
accum dep	Accumulated Depreciation	($118,202,826)	($68,778,384)	($16,600,010)	($28,098,173)	($4,350,092)	($199,606)	($176,560)
co	Capital Contribution	($11,843,046)	($6,678,916)	($1,714,494)	($2,847,884)	($554,144)	($25,424)	($22,184)
	Total Net Plant	$73,717,376	$43,268,481	$10,154,730	$17,657,705	$2,424,020	$111,724	$100,716
	Directly Allocated Net Fixed Assets	$0	$0	$0	$0	$0	$0	$0
COP	Cost of Power (COP)	$94,914,882	$40,588,719	$14,345,230	$38,981,466	$807,503	$46,582	$145,382
	OM&A Expenses	$15,564,618	$10,461,410	$1,967,845	$2,582,288	$488,309	$33,922	$30,843
	Directly Allocated Expenses	$0	$0	$0	$0	$0	$0	$0
	Subtotal	***$110,479,500***	***$51,050,129***	***$16,313,075***	***$41,563,755***	***$1,295,812***	***$80,505***	***$176,225***
	Working Capital	$14,362,335	$6,636,517	$2,120,700	$5,403,288	$168,456	$10,466	$22,909
	Total Rate Base	$88,079,711	$49,904,997	$12,275,430	$23,060,994	$2,592,476	$122,189	$123,625
		Rate Base Input equals Output						
	Equity Component of Rate Base	$35,231,884	$19,961,999	$4,910,172	$9,224,397	$1,036,990	$48,876	$49,450
	Net Income on Allocated Assets	$3,213,148	$607,948	$1,149,743	$1,372,239	$68,838	($3,132)	$17,513
	Net Income on Direct Allocation Assets	$0	$0	$0	$0	$0	$0	$0
	Net Income	$3,213,148	$607,948	$1,149,743	$1,372,239	$68,838	($3,132)	$17,513
	RATIOS ANALYSIS							
	REVENUE TO EXPENSES STATUS QUO%	100.00%	92.04%	121.37%	112.39%	95.37%	83.24%	130.37%
	EXISTING REVENUE MINUS ALLOCATED COSTS	($844,290)	($1,769,888)	$570,221	$414,628	($61,231)	($9,263)	$11,244
		Deficiency Input equals Output						
	STATUS QUO REVENUE MINUS ALLOCATED COSTS	($0)	($1,278,762)	$707,353	$602,616	($36,366)	($7,981)	$13,140
	RETURN ON EQUITY COMPONENT OF RATE BASE	9.12%	3.05%	23.42%	14.88%	6.64%	-6.41%	35.42%

2013 Cost Allocation Model

Sheet O2 Monthly Fixed Charge Min. & Max. Worksheet -

Output sheet showing minimum and maximum level for Monthly Fixed Charge

Summary

	1	2	3	7	8	9
	Residential	GS <50	GS>50-Regular	Street Light	Sentinel	Unmetered Scattered Load
Customer Unit Cost per month - Avoided Cost	$7.64	$11.25	$30.00	$0.91	$2.50	$3.03
Customer Unit Cost per month - Directly Related	$9.56	$13.89	$37.77	$1.16	$3.19	$3.86
Customer Unit Cost per month - Minimum System with PLCC Adjustment	$17.29	$19.32	$44.39	$6.63	$8.84	$7.69
Existing Approved Fixed Charge	$16.14	$21.55	$164.49	$3.72	$3.71	$8.05

Information to be Used to Allocate PILs, ROD, ROE and A&G

		1	2	3	7	8	9
	Total	Residential	GS <50	GS>50-Regular	Street Light	Sentinel	Unmetered Scattered Load
General Plant - Gross Assets	$15,490,818	$9,043,036	$2,148,937	$3,712,562	$539,200	$24,831	$22,251
General Plant - Accumulated Depreciation	($10,456,663)	($6,104,261)	($1,450,583)	($2,506,066)	($363,973)	($16,761)	($15,020)
General Plant - Net Fixed Assets	$5,034,154	$2,938,776	$698,355	$1,206,496	$175,227	$8,069	$7,231
General Plant - Depreciation	$302,942	$176,848	$42,025	$72,604	$10,545	$486	$435
Total Net Fixed Assets Excluding General Plant	$68,683,221	$40,329,705	$9,456,376	$16,451,210	$2,248,793	$103,654	$93,484
Total Administration and General Expense	$3,339,201	$2,244,369	$422,177	$553,999	$104,761	$7,278	$6,617
Total O&M	$12,225,417	$8,217,041	$1,545,668	$2,028,290	$383,548	$26,645	$24,226

File Number:	EB-2012-0126
Exhibit:	7
Tab:	1
Schedule:	1
Attachment:	3
Date:	9 November 2012

Appendix 2-P
Cost Allocation

Please complete the following four tables.

A) Allocated Costs

Classes	Costs Allocated from Previous Study	%	Costs Allocated in Test Year Study (Column 7A)	%
Residential	$ 12,265,368	59.65%	$ 16,056,242	63.96%
GS < 50 kW	$ 3,045,667	14.81%	$ 3,309,627	13.18%
GS > 50 kW (or 50 kW < GS < xxx kW, if applicable)	$ 4,312,464	20.97%	$ 4,862,853	19.37%
Street Lighting	$ 844,907	4.11%	$ 785,187	3.13%
Sentinel Lighting	$ 46,633	0.23%	$ 47,618	0.19%
Unmetered Scattered Load (USL)	$ 46,696	0.23%	$ 43,263	0.17%
Total	$ 20,561,735	100.00%	$ 25,104,790	100.00%

Notes

1 Customer Classification - If proposed rate classes differ from those in place in the previous Cost Allocation study, modify the rate classes to match the current application as closely as possible.

2 Host Distributors - Provide information on embedded distributor(s) as a separate class, if applicable. If embedded distributor(s) are billed as customers in a General Service class, include the allocated cost and revenue of the embedded distributor(s) in the applicable class. Also complete Appendix 2-Q.

3 Class Revenue Requirements - If using the Board-issued model, in column 7A enter the results from Worksheet O-1, Revenue Requirement (row 40 in the 2013 model). This excludes costs in deferral and variance accounts. Note to Embedded Distributor(s), it also does not include Account 4750 - Low Voltage (LV) Costs.

B) Calculated Class Revenues

Classes (same as previous table)	Column 7B	Column 7C	Column 7D	Column 7E
	Load Forecast (LF) X current approved rates	L.F. X current approved rates X (1 + d)	LF X proposed rates	Miscellaneous Revenue
Residential	$ 13,210,751	$ 13,701,876	$ 13,747,467	$ 1,075,603
GS < 50 kW	$ 3,688,713	$ 3,825,845	$ 3,780,417	$ 191,135
GS > 50 kW (or 50 kW < GS < xxx kW, if applicable)	$ 5,056,676	$ 5,244,664	$ 5,244,664	$ 220,805
Street Lighting	$ 668,848	$ 693,713	$ 693,713	$ 55,108
Sentinel Lighting	$ 34,475	$ 35,756	$ 40,080	$ 3,880
Unmetered Scattered Load (USL)	$ 51,010	$ 52,906	$ 48,419	$ 3,497
Total	$ 22,710,473	$ 23,554,760	$ 23,554,760	$ 1,550,028

Notes:

1 Columns 7B to 7D - LF means Load Forecast of Annual Billing Quantities (i.e. customers or connections X 12, (kWh or kW, as applicable). Revenue Quantities should be net of Transfomrer Ownership Allowance. Exclude revenue from rate adders and rate riders.

2 Columns 7C and 7D - Column total in each column should equal the Base Revenue Requirement

3 Columns 7C - The Board cost allocation model calculates "1+d" in worksheet O-1, cell C21. "d" is defined as Revenue Deficiency/ Revenue at Current Rates.

4 Columns 7E - If using the Board-issued Cost Allocation model, enter Miscellaneous Revenue as it appears in Worksheet O-1, row 19.

C) Rebalancing Revenue-to-Cost (R/C) Ratios

Class	Previously Approved Ratios	Status Quo Ratios	Proposed Ratios	Policy Range
	Most Recent Year: 2011	(7C + 7E) / (7A)	(7D + 7E) / (7A)	
	%	%	%	%
Residential	96.87	92.04	92.32	85 - 115
GS < 50 kW	106.33	121.37	102.48	80 - 120
GS > 50 kW (or 50 kW < GS < xxx kW, if applicable)	110.26	112.39	112.39	80 - 120
Street Lighting	70.00	95.37	95.37	70 - 120
Sentinel Lighting	70.00	83.24	92.32	80 - 120
Unmetered Scattered Load (USL)	115.19	130.37	120.00	80 - 120

Notes

1 Previously Approved Revenue-to-Cost Ratios - For most applicants, Most Recent Year would be the third year of the IRM 3 period, e.g. if the applicant rebased in 2009 with further adjustments over 2 years, the Most recent year is 2011. For applicants that have had rates adjusted only under IRM 2, the Most Recent Year is 2006, and the applicant should enter the ratios from their Informational Filing.

2 Status Quo Ratios - The Board's updated Cost Allocation Model yields the Status Quo Ratios in Worksheet O-1. Status Quo means "Before Rebalancing".

D) Proposed Revenue-to-Cost Ratios

Class	Proposed Revenue-to-Cost Ratios			Policy Range
	2013	2014	2015	
	%	%	%	%
Residential	92.32			85 - 115
GS < 50 kW	102.48			80 - 120
GS > 50 kW (or 50 kW < GS < xxx kW, if applicable)	112.39			80 - 120
Street Lighting	95.37			70 - 120
Sentinel Lighting	92.32			80 - 120
Unmetered Scattered Load (USL)	120.00			80 - 120

Note

1 The applicant should complete Table D if it is applying for approval of a revenue to cost ratio in 2012 that is outside the Board's policy range for any customer class. Table (d) will show the information that the distributor would likely enter in the IRM model) in 2013. In 2013 Table (d), enter the planned ratios for the classes that will be 'Change' and 'No Change' in 2013 (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'.