RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 1:

Reference(s): Exhibit 1, all

a) For all adjustments made as part of the interrogatory process please provide a tracking table showing the adjusted revenue requirement, the category under which the adjustment is made (rate base, OM&A etc.) and a reference to the interrogatory for which that change was made. An example of this form of table is shown below.

Reference	Item	Regulated Return on Capital	Regulated Rate of Return	Rate Base	Working Capital	Working Capital Allowance	Amortization	PILs	OM&A	Service Revenue Requirement	Base Revenue Requirement	Gross Revenue Deficiency
OEB IR# 24 (a) & (b)	**Original Submission August 2010**	**$10,824,124**	**7.08%**	**$152,808,317**	**$125,598,185**	**$18,839,728**	**$7,816,331**	**$1,212,310**	**$10,183,838**	**$30,036,603**	**$28,980,640**	**$5,012,440**
EP IR# 13 (e)	Adjust Infrastructure Ontario Debt to 1 Day Change	**$11,168,599** $344,475	**7.31%** 0.23%	**$152,808,317** $0	**$125,598,185** $0	**$18,839,728** $0	**$7,816,331** $0	**$1,212,310** $0	**$10,183,838** $0	**$30,381,077** $344,475	**$29,325,115** $344,475	**$5,356,914** $344,475
EP TCQ # 9 & EP IR # 19 (a)	PILs Correction - Input Error - Bldg amount in Class 1b Change	**$11,168,599** $0	**7.31%** $0	**$152,808,317** $0	**$125,598,185** $0	**$18,839,728** $0	**$7,816,331** $0	**$1,213,484** $1,175	**$10,183,838** $0	**$30,382,252** $1,175	**$29,326,289** $1,175	**$5,358,089** $1,175
EP TCQ # 9 & VECC TCQ # 1 (b) & (c)	AFUDC Rate on Capitalized Interest Change	**$11,196,054** $27,455	**7.31%** $0	**$153,183,959** $375,642	**$125,598,185** $0	**$18,839,728** $0	**$7,823,920** $7,589	**$1,213,336** -$148	**$10,183,838** $0	**$30,417,147** $34,896	**$29,361,185** $34,896	**$5,392,984** $34,896
EP IR # 11 (b) & VECC TCQ # 1 (a)	Adjust Purchase kWh for CDM Adjmts Change	**$11,196,054** $0	**7.31%** $0	**$153,183,959** $0	**$125,598,185** $0	**$18,839,728** $0	**$7,823,920** $0	**$1,213,336** $0	**$10,183,838** $0	**$30,417,147** $0	**$29,361,185** $0	**$5,279,238** -$113,746
	Adjust Purchase kWh for CDM Adjmts @ Application Power Rates Change	**$11,204,832** $8,778	**7.31%** $0	**$153,304,058** $120,099	**$126,398,846** $800,661	**$18,959,827** $120,099	**$7,823,920** $0	**$1,215,199** $1,863	**$10,183,838** $0	**$30,427,788** $10,641	**$29,371,826** $10,641	**$5,289,879** $10,641
VECC TCQ # 1 (b) & (c)	Adjust Oct 15/10 Navigant Numbers, Power, GA & $68.38 RPP Rates Change	**$11,202,097** -$2,735	**7.31%** $0	**$153,266,641** -$37,417	**$126,149,397** -$249,449	**$18,922,410** -$37,417	**$7,823,920** $0	**$1,214,619** -$580	**$10,183,838** $0	**$30,424,473** -$3,315	**$29,368,510** -$3,315	**$5,286,564** -$3,315
Decision EB-2010-0002	Adjust NW & CN kW for Purchase & CDM Adjmts Change	**$11,212,740** $10,642	**7.31%** $0	**$153,412,249** $145,608	**$127,120,117** $970,720	**$19,068,018** $145,608	**$7,823,920** $0	**$1,216,877** $2,259	**$10,183,838** $0	**$30,437,374** $12,901	**$29,381,412** $12,901	**$5,299,465** $12,901
OEB IR # 21	Adjust NW & CN kW for IESO & HONI January 1, 2011 Price Increases Change	**$11,221,588** $8,848	**7.31%** $0	**$153,533,306** $121,057	**$127,927,161** $807,044	**$19,189,074** $121,057	**$7,823,920** $0	**$1,218,755** $1,878	**$10,183,838** $0	**$30,448,100** $10,726	**$29,392,137** $10,726	**$5,310,191** $10,726
EP IR 23 (c) / 29 (a) & (b) EP TCQ 14 (a)	OMERS increase for 2012 & 2013 Change	**$11,222,972** $1,384	**7.31%** $0	**$153,552,243** $18,938	**$128,053,411** $126,250	**$19,208,012** $18,938	**$7,823,920** $0	**$1,219,049** $294	**$10,310,088** $126,250	**$30,576,028** $127,928	**$29,520,065** $127,928	**$5,438,118** $127,928
	Removal of Street Light Return & PILs Change	**$11,222,972** $0	**7.31%** $0	**$153,552,243** $0	**$128,053,411** $0	**$19,208,012** $0	**$7,823,920** $0	**$1,219,049** $0	**$10,310,088** $0	**$30,576,028** $0	**$29,586,071** $66,006	**$5,504,124** $66,006
EP IR 40 & EP TCQ 21 (a)	PILs - Computer Hardware to Correct CCA Account Change	**$11,222,972** $0	**7.31%** $0	**$153,552,243** $0	**$128,053,411** $0	**$19,208,012** $0	**$7,823,920** $0	**$1,193,531** -$25,518	**$10,310,088** $0	**$30,550,510** -$25,518	**$29,560,553** -$25,518	**$5,478,606** -$25,518
EP IR 41 / EP TCQ 21(b)	PILs - Land Rights CCA Change	**$11,222,972** $0	**7.31%** $0	**$153,552,243** $0	**$128,053,411** $0	**$19,208,012** $0	**$7,823,920** $0	**$1,192,976** -$555	**$10,310,088** $0	**$30,549,955** -$555	**$29,559,998** -$555	**$5,478,051** -$555

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RESPONSE:

Please see table below. The only identified changes were a minor increase to PILs and an increase to total Revenue Offsets.

Summary of Changes ($M)

Reference	Item	Rate Base	Working Capital Allowance	Amortization	PILs	OM&A	Service Revenue Requirement	Revenue Offsets	Base Revenue Requirement	Gross Revenue Deficiency
Original Submission	23-Sep-14	3,312.4	241.7	208.2	22.4	265.1	707.3	45.1	662.2	-107.4
OEB Staff 78	Changes to Ontario Small Business Tax	3,312.4	241.7	208.2	22.5	265.1	707.4	45.1	662.3	-107.5
Change ($)					**62,680**		**62,680**		**62,680**	**62,680**
3-SIA-30	Correction to Revenue Offsets from Specific	3,312.4	241.7	208.2	22.5	265.1	707.4	46.1	661.4	-106.6
Change ($)								**963,700**	**-963,700**	**-963,700**
Revised Submission	14-Nov-14	3,312.4	241.7	208.2	22.5	265.1	707.4	46.1	661.4	-106.6
Change ($)					**62,680**		**62,680**	**963,700**	**-901,020**	**-901,020**

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INTERROGATORY 2:

Reference(s): **Exhibit 1, Tab 2, Schedule 5, Appendix C**

a) In its Reply Submission to the issue of confidentiality with respect to the sale of property THESL makes the following statement: "*Toronto Hydro has proposed to credit all net proceeds of sale from the Properties back to ratepayers*." Yet in Attachment A of the above reference (Navigant Assessment) it states in reference to operating center moves and sales that "[N]one *of the funds will be used for facilities or equipment for the delivery of electricity to THESL customers*. Please explain this apparent discrepancy.

RESPONSE (PREPARED BY NAVIGANT):

a) There is no discrepancy as the two statements are mutually exclusive. The first statement refers to proceeds that Toronto Hydro will accrue from the sale of these properties. The second statement refers to funds for which Toronto Hydro is requesting authorization from the OEB which will be used solely for the consolidation and relocation of operating centers, and not for electric distribution investments such as overhead lines and substation equipment. Navigant's report does not state or imply that proceeds from the sale would be used to fund the consolidation and relocation of the operating centers.

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INTERROGATORY 3:

Reference(s): Exhibit 1A, Tab 2, Schedule 1, page 27

a) Please provide the THESL's CPI actual/forecast for each of the years 2012 through 2019. Please provide the source for these figures.

RESPONSE:

Please refer to response to interrogatory 2A-SEC-14, part b.

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INTERROGATORY 4:

Reference(s): **Exhibit 1A**

a) Based on THESL's current forecasts please provide a chart showing the annual bill of a residential customer at 1000kWh/month for each of the years 2010 through 2019. Please show the forecast/assumptions.

b) Please prepare a graph which compares this annual amount to the actual and forecast CPI.

RESPONSE:

a) The table below shows the annual bill of a residential customer at 1,000 kW from 2010 to 2019:

Year	Annual Residential Bill*	Percentage Increase
2010	$1,615.56	N/A
2011	$1,663.68	3.0%
2012	$1,757.28	5.6%
2013	$1,871.16	6.5%
2014	$1,949.94	4.2%
2015	$1,978.51	1.5%
2016	$2,256.93	14.1%
2017	$2,303.31	2.1%

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Year	Annual Residential Bill*	Percentage Increase
2018	$2,386.97	3.6%
2019	$2,413.41	1.1%

Annual residential bills are calculated with the following assumptions:

i) Annual bill is calculated based on average Time-of-Use rates and OEB-approved distribution rate order of the calculating year.

ii) Annual bill includes applicable taxes (GST/HST) & Ontario Clean Energy Benefit which commenced January 1, 2011 and is assumed to expire on December 31, 2015.

iii) Where applicable, 1,000 kWh is adjusted for the OEB-approved Total Loss Factor of 3.76% for Toronto Hydro to obtain the appropriate billing determinant.

iv) Global Adjustment and any OEB approved Global Adjustment rate riders are not applicable to the Residential class on Time-of-Use rates.

v) The May 1, 2014 Time-of-Use rates are used in the calculation of the annual bill from 2014-2019, consistent with Bill Impact tables in Exhibit 8A, Tab 7, Schedule 1.

b) The graph below compares the Residential Annual Bill percentage increases and the Toronto CPI percentage increases, from 2011 to 2019.

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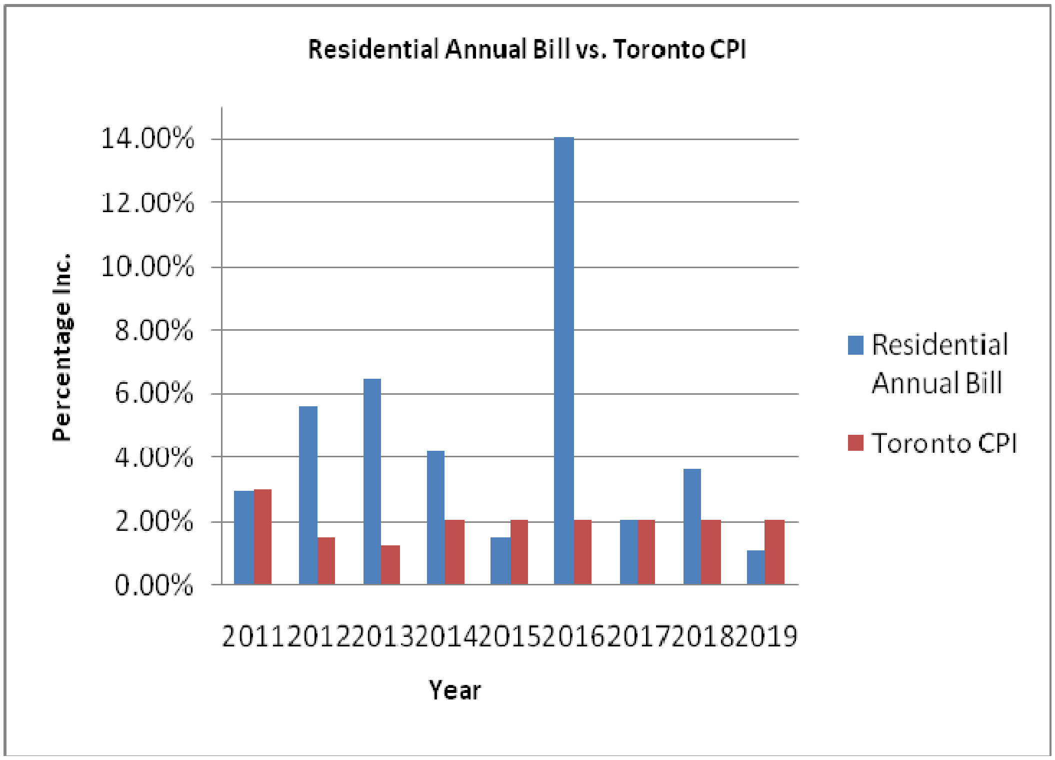

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INTERROGATORY 5:

Reference(s): **Exhibit 1B, Tab 2, Schedule 5, Appendix B and Exhibit 1B, Tab 6, page 3, Table 1**

a) At section 1.4 of the PSE Benchmarking Report its notes that in many use jurisdiction weather-normalize SAIFI/SAIDI statistics (excluding major event days) in order to gauge reliability performance during normal operating conditions. Please provide the author's view of why this is done and explain any significant impact it may have when comparing Ontario to U.S. Utilities.

b) Using Table 1 in the Report please identify the utilities eliminated from the analysis due to the absence of having comparable SAIFI/SAIDI data.

c) Since THESL track outages by cause code please explain why benchmark or targets for reduction of interruptions by the defective equipment, scheduled outage or other more informative statistics were not used.

RESPONSE (PREPARED BY PSE):

a) Weather-normalization is often done to evaluate reliability metrics during the normal operations of the utility. Severe weather events can significantly impact reliability indexes, which is why excluding major event days is sometimes done to attempt to reduce weather impacts from the reliability metrics. PSE used U.S. data that included the major event day outages in order to make the data set consistent with the Ontario data set.

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b) All of the utilities that were not in the reliability sample but that were in the total cost sample were eliminated due to PSE's inability to locate comparable reliability data, or other data used in the model. Please see the response to interrogatory 1B-BOMA-89 for additional context.

c) Comparable data for most Ontario or U.S. utilities regarding cause codes is not available.

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INTERROGATORY 6:

Reference(s): **Exhibit 1B, Tab 2, Schedule 7, Appendix B**

a) At page 14 of the Innovative Research Group Customer Consultation Report ("Report") it provides various responses to the workbook and subsequent survey. Please provide the actual sample size for each rate class surveyed and for whom results are shown in this Report.

b) Please comment on the statistical significance of the survey response vis-à-vis the population size for each class.

c) At page 24 of the Report it shows the outages experienced over the past 2 years Please show the actual outages for the last 2 years for the classes that were included in that response. Please explain how they compare.

d) At page 20 of the Report it shows customer response to the question of how THESL can improve service. The responses sum to 102%. Please explain why.

e) With respect to the responses on page 20 please explain how respondents were required to indicate their preference. That is, were the responses mutually exclusive or were they ranked (i.e. collectively exhaustive)?

f) At page 33 it asks if customers prefer to replace equipment when it breaks down even it means power outages. The response was - 73% would prefer proactive replacement. What "equipment" is being discussed in this question? What portion of outages for each of 2011 through 2013 was due to faulty equipment (i.e. non-weather or animal/human interference related)?

g) At page 34 it states that *"More than half (56%) of residential respondents agree that it is "very important" for Toronto Hydro to invest now in modernizing the grid."*

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What information was provided to the respondents in order for them to understand the meaning of "modernizing the grid"?

h) At page 40 it indicates that 47% of respondents believe THESL should change some of the priorities. What priorities were ranked/reviewed by the respondents? Which priorities did the respondents believe need changing?

i) What information and questions did THESL give/ask consumers in respect to the complement or compensation of THESL employees and its executives?

RESPONSE (PREPARED BY INNOVATIVE RESEARCH GROUP):

a) The survey questions were embedded within the workbook itself. A total of 202 residential customers and seven business customers went through the entire workbook and answered all questions.

b) This was an online survey and so a margin of error is not applicable as per the Marketing Research and Intelligence Association (MRIA). The goal of the workbook was not to collect a statistically representative sample, but rather to give all ratepayers an opportunity to share their opinions on THESL plan.

RESPONSE (PREPARED BY TORONTO HYDRO):

c) Toronto Hydro's outage tracking system (ITIS) does not provide the granularity required to track the two reliability methodologies presented in the figure reference by rate class.

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RESPONSE (PREPARED BY INNOVATIVE RESEARCH GROUP):

d) This is due to rounding. When creating charts, data is rounded up or down to the nearest whole number. So, when adding the whole numbers shown in the chart, the result may be greater than 100%.

e) The responses shown in the chart are coded responses to a fully open-ended question. Respondents answered in their own words, and then we coded the responses into like categories.

f) "Equipment" in this context refers to the various components that make up the electrical grid in Toronto. Respondents answered based on everything they had read about the grid up until this point in the workbook, and any knowledge they had beforehand.

RESPONSE (PREPARED BY TORONTO HYDRO):

f) The proportion of unplanned customer interruptions that was due to faulty equipment is as follows:

- 2011 – 39%
- 2012 – 47%
- 2013 – 38%

RESPONSE (PREPARED BY INNOVATIVE RESEARCH GROUP):

g) On the page in the workbook prior to that question, respondents were provided with information on Feeder Automation, Power Line Monitors, Transformer Monitors and

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Energy Storage. The full question wording addressed the possible implications of modernizing the grid: "Modernizing the grid can allow Toronto Hydro to improve reliability. Investments such as automated switches may allow Toronto Hydro to minimize the number of people impacted by outages and to restore electricity to most customers in a matter of seconds. Given there are many other areas of needed investment, such as connecting new customers, replacing aging equipment and expanding capacity for long-term growth, how important to you feel it is for Toronto Hydro to invest now in modernizing the grid".

h) In the workbook, the page previous to this question included a chart which illustrated what proportion was going to spent on each of twelve areas (replacing aging and obsolete equipment, expanding capacity for long-term growth, connecting customers, improving reliability by reconfiguring circuits, updating IT infrastructure, accommodating construction projects in the city, modernizing the grid, maintaining and upgrading customer meters, building maintenance, connecting renewable generation, vehicles and equipment for crews, and accommodating electric vehicles).

Figure 1.23 on page 41 and Figure 1.24 on page 42 summarize where respondents would like to see either more or less spending. Over half (53%) would like more spent on modernizing the grid, and one in five (20%) would like less spent on non-capital expenses and major infrastructure projects. Please note that these two charts show coded results to open-ended questions.

i) This was not a part of the consultation work and so it was not investigated.

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INTERROGATORY 7:

Reference(s): **Exhibit 1B, Tab 2, Schedule 7, Appendix B**

a) Beginning at page 106 of the survey result there are summaries of customer telephone surveys. The stated purpose of these surveys was "*to obtain statistically significant quantitative feed on the proposed DSP and to assess reaction to customer opinions obtained from the previous research phases*." Were the same questions asked in both surveys? If yes, please provide a table that compares the results of the two surveys.

RESPONSE (PREPARED BY INNOVATIVE):

The "previous research phases" refers to the online workbook, facilitated discussions and workshops that are covered in the earlier sections of the report. There are some key questions that were asked across all phases of the research, but as the first three phases were exploratory (and qualitative in the case of the facilitated discussions and workshops) in nature, it would not be appropriate to compare the results of one research phase to another in a tabular format. The research program was designed such that all earlier phases of the research program aided in the design of the final telephone survey instrument.

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INTERROGATORY 8:

Reference(s): **Exhibit 2A, Tab 1, Schedule 1, pp.7-8**

a) Please provide a breakdown of the $66.7 in capital additions that were above the Board approved in 2011 (i.e., Stray Voltage equipment/715 Milner/Other).

b) Please explain why this amount Stray Voltage Equipment and Milner Property purchase were unknown at the time of the 2011 rebasing application.

RESPONSE:

a) The table below details the 2011 capital additions that were above the OEB-approved amount:

Category	2011 Capex ($M)
715 Milner	17.3
Civil & Underground	36.0
Canadian Power Survey Corporation Lease	13.4
Total	**66.7**

b) Amounts associated with the Stray Voltage Equipment were unknown at the time of the 2011 rebasing application because the capital lease with Canadian Power Survey Corporation was signed in the third quarter of 2013.

Amounts associated with the Milner Property were unknown at the time of the 2011 rebasing application because Toronto Hydro had not yet made the decision to acquire a property in the eastern part of Toronto.

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INTERROGATORY 9:

Reference(s): Exhibit 2A, Tab 1, Schedule 2, Continuity Schedule

a) In 2011 through 2013 THESL shows significant additions and retirements to its Transportation Equipment (Account 1935). In 2014 no retirements are forecast and notwithstanding the forecast addition of 4.4 million in such equipment. Please explain why there are not retirements forecast for Transportation Equipment in 2014?

b) Please explain why there are no Transportation Equipment Retirements in 2015.

RESPONSE:

a) As shown in Exhibit 2A, Tab 1, Schedule 2 and summarized in the table below, the historical net book value amounts for retirement/transfers for Transportation Equipment are immaterial.

		2011 CGAAP	2012 UGAAP	2013 UGAAP
Cost	Retirement	($7,257,634)	($7,623,507)	($832,365)
Accumulated Depreciation	Retirement	$7,185,827	$7,039,462	$773,987
Net Retirement		**($71,806)**	**($584,045)**	**($58,377)**

Toronto Hydro did not forecast retirements for Transportation Equipment (Account 1930) in 2014 under the assumption that any retirements will occur at the end of asset useful lives resulting in zero net book value.

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b) Please refer to the response above in part a). The assumption for Transportation Equipment retirements in 2014 also applies in 2015.

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INTERROGATORY 10:

Reference(s): Exhibit 2A, Tab 1, Schedule 2, Continuity Schedule

a) THEL's forecast contribution & grants for 2014 and 2015 appear to be significantly lower than past actuals (see table below). Please explain how the 2014 and 2015 forecast for contributions is calculated. If it is calculated based on specific connection projects please show these.

Description	Account	2011	2012	2013	2014 (MIFRS)	2015
Capital Contributions	1995	36,381,079	22,061,046	23,083,937	17,606,991	15,285,779

RESPONSE:

The capital contribution recoveries for 2014 and 2015 were forecasted using the average recovery for routine customer connection jobs during 2012 and 2013, excluding unique large projects such as Civil Install Cherry Street Realignment, West Don Lands Phase 1, and Sherway Gardens Connection that resulted in a $45.1 million recovery in 2012-2013. At this time, Toronto Hydro does not have any signed offers to connect large projects with substantial recovery factors[1] in the bridge and test years. Therefore, the capital contribution recoveries for 2014 and 2015 were forecast based on the normalized historical trends for 2012 and 2013. Toronto Hydro excluded 2011 recoveries because

[1] Substantial recovery occurs where the cost to expand the system to provide the customer with additional power is not offset by an increased in load revenue, therefore a higher contribution from the customer is requested to offset the cost of the expansion work.

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the definitions of system enhancements and expansion in its Conditions of Service were revised in January 2011. This change affected the contributed capital that was payable in 2011 as a large portion of the projects in that year were based on agreements which were concluded under the previous definitions.

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INTERROGATORY 11:

Reference(s): Exhibit 2A, Tab 5, Schedule 1, pg. 17

a) Please show the allocation of the $10.9 million difference in value of transferred street lighting assets (39.8-28.9) as between that due to normal asset evolution and that due to valuation changes.

RESPONSE:

a) Please see the table below for a breakdown.

		in millions
Value of Assets Eligible to be Transferred as per Valuation Decision		**28.9**
Valuation Changes		
Valuation Changes of 2010 Base Assets	13.0	
2011-2014 Depreciation of 2010 Base Assets	(7.6)	
Net Valuation Change		5.4
Normal Asset Evolution		
2011-2014 Additions	5.7	
2011-2014 Depreciation on New Additions	(0.2)	
Net Asset Evolution		5.5
Value of Transferred Streetlighting Assets		**39.8**

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INTERROGATORY 12:

Reference(s): **Exhibit 2A, Tab 6, Schedule 1, p. 2**

a) Why did THESL change the interest rate used for CWIP to the weighted average cost of borrowing (from Board approved rate)?

What is the cost difference in 2015 of these methodologies? Given the short-term nature of project financing why would THESL's (Board's) cost of short-term not be more appropriate than the weighted costs?

RESPONSE:

Toronto Hydro changed the interest rate used for CWIP on transition to MIFRS. The weighted average cost of debt was applied under MIFRS to comply with Article 410 of the Accounting Procedures Handbook for Electricity Distributors, which states:

> The Board will continue to publish interest rates for Construction Work in Progress (CWIP). Where incurred debt is acquired on an arm's length basis, the actual borrowing costs should be used for determining the amount of carrying charges to be capitalized to CWIP for rate making during the period, in accordance with IFRS.

The cost difference between these methodologies in 2015 is approximately $1.2 million. It would not be appropriate to use the OEB-approved rate because it does not comply with MIFRS requirements and the Accounting Procedures Handbook.

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INTERROGATORY 13:

Reference(s): **Exhibit 2A, Tab 6, Schedule 2, Appendix 2-AA**

a) Please explain the category Contingency Enhancement that begins in 2015.

b) Please explain the category of General Plant costs called "Inflation" is included in the capital budget.

RESPONSE:

a) The objective of the Contingency Enhancement program is to make improvements to feeders in the existing distribution systems that are currently unable to quickly restore power to affected customers under a contingency situation. Please refer to Exhibit 2B, Section E7.1 for more information about this program.

b) As indicated in Exhibit 2B, Section E4.2.5 (Other Capital Expenditures Spending Profile), the inflation category captures inflation costs for expenditures in 2016 through 2019. Please also refer to Toronto Hydro's response to interrogatory 2A-SEC-14.

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INTERROGATORY 14:

Reference(s): **Exhibit 2A, Tab 6, Schedule 2, Appendix 2-AA**
Exhibit 2A, Tab 1, Schedule 1

a) Please explain the reasons for the large drop in capital/additions/spending in 2012 as compared to the previous and subsequent years.

RESPONSE:

a) The drop in 2012 is attributable to the immediate ramp-down of the capital program following the OEB's decision in EB-2011-0144. This ramp-down had a direct impact on the scheduling and execution of the capital program, and the resulting spending levels, in 2012.

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INTERROGATORY 15:

Reference(s): **Exhibit 2A, Tab 10, Schedule 2, page 4**

Pre-amble:

The purpose of these questions is to better understand how MEDs are defined and used by THESL.

a) Please explain how a Major Event Day ("MED) thunderstorm is delineated from a "regular" thunderstorm. Are there certain conditions under which equipment flooding is categorized as part of a MED and others when it is not? Please explain how THESL divines the difference between a "major event day" and "something major that happens on a day"

RESPONSE:

Toronto Hydro uses the IEEE Standard 1366-2012 2.5 Beta method for calculating an MED threshold, which is then used to determine which days are considered a "major event day". This method is a SAIDI-based threshold and each year's MED threshold would be based on the past five years of data. As an example, if Toronto Hydro's daily MED threshold is ten minutes, a day would be considered to be an MED if the sum of all the events for a single day exceeds a SAIDI of ten minutes.

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INTERROGATORY 16:

Reference(s): **Exhibit 2A, Tab 5, Schedule 1, p.6**
Exhibit 2B, Section D2, Overvew of Assets Managed, p.13 and
Exhibit 4A, Tab 2, Schedule 1, p.

a) In the discussion regarding streetlighting assets it states that the OIP study shows approximately 27% of poles were older than 1970. The table at 2B/Section D2, page 13 appear to show wood poles with an age of about 40%. At Exhibit 4A its states that 31% of poles will exceed 45 years. Are the findings of the Distribution plan similar or different than those for similar assets done for the streetlighting transfer?

b) Does the estimate of pole age have a bearing on THESL's pole replacement program?

RESPONSE:

a) Toronto Hydro confirms that proportions of poles that exceed 45 years of age are relatively similar for distribution poles (i.e., 31% for Exhibit 4A, Tab 2, Schedule 1, page 8) and for poles that are part of the streetlighting transfer (i.e., 27% for Exhibit 2A, Tab 5, Schedule 1, page 6).

b) Yes, the estimate of pole age is one of the determining factors for pole replacement decisions.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 17:

Reference(s): **Exhibit 2B, Section D, Appendix A – 2014 Asset Condition Assessment Audit**

a) Please explain how THESL is responding to recommendation 6 of the Audit:

“*Consider adopting the recommended Health Index formulations presented in the Kinectrics 2010 Audit. If required, continue refining the recommended Health Index formulations and determine what is feasible from an operational perspective*”.

RESPONSE:

a) Please refer to Toronto Hydro’s response to interrogatory 2B-EP-33.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 18:

Reference(s): Exhibit 2B, Section E8.3, pg.23

a) Please update the ERP spending for 2014 to show the actual spending to date.

b) Has THESL completed its selection of a vendor(s) for this project? If not when is this expected to occur?

RESPONSE:

a) Actual 2014 ERP Program spending as of September 30, 2014 is $0.5 million.

b) Toronto Hydro has not completed its selection of an ERP System Vendor for the ERP Program. The selection process will be completed only if and when this Application process is completed.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 19:

Reference(s): **Exhibit 2B, Section E8.1**
Exhibit 1A, Tab 6, Schedule 2, Appendix 2-AA

a) Based on the preliminary budget of $52.1 million, please provide the annual 2015 to 2019 capital improvement budgets that are included in the rate plan for the Rexdale property.

b) When does THESL expect to have a detailed budget for renovation of this property?

c) Please reconcile the "Facilities" line for 2014-2019 (1st table) with Table B (2nd table) from the Distribution Plan showing OCCP capital expenditures.

System Service Investments Sub-Total	**104.1**	**86.8**	**56.5**	**62.5**	**49.5**	**73.9**
Fleet and Equipment Services	2.6	3.9	3.2	3.7	3.5	3.6
Facilities	90.3	53.8	24.2	2.0	2.0	1.9
IT Hardware	5.2	5.9	8.0	7.4	9.8	5.6
IT Software	10.1	15.5	16.2	15.8	16.8	16.8
Radio Project	-	6.7	13.7	-	-	-
ERP*	0.9	17.7	33.6	-	-	-
Program Support	0.4	1.2	0.5	-	-	-
General Plant Investments Sub-Total	**109.5**	**104.6**	**99.4**	**28.9**	**32.1**	**27.9**

	Historical Spending					Future Spending				
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
CAPEX ($M)	0.0	17.3	0.0	7.7	82.7	37.4	14.8	0.0	0.0	0.0

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

RESPONSE:

a) Toronto Hydro forecasts the capital expenditures for the Rexdale facility are estimated to be $18.8 million in 2015 and $14.4 million in 2016.

b) Toronto Hydro expects to have a detailed budget for the Rexdale facility by 2014Q4.

c) The “Facilities” line in the schedule noted above for 2014 – 2019 (Exhibit 2A, Tab 6, Schedule 2) includes both Facilities Management and Security and Operating Centres Consolidation Programs. Please refer to the table below for the 2014 to 2019 “Facilities” capital expenditures breakdown. Facilities Management and Security capital expenditures in the table below agree to Exhibit 2B, Section E8.2, Table C and the OCCP capital expenditures in the table below agree to Exhibit 2B, Section E8.3, Table B.

PROGRAM	2014	2015	2016	2017	2018	2019
Facilities Management and Security	$7.5	$16.5	$9.4	$2.0	$2.0	$1.9
Operating Centers Consolidation Program	$82.7	$37.4	$14.8	$-	$-	$-
Total	**$90.3**	**$53.8**	**$24.2**	**$2.0**	**$2.0**	**$1.9**

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 20:

Reference(s): **Exhibit 3, Tab 1,Schedule 1, pages 3-4**
OEB Exh3_T01_S01_Modelling Input Data

Preamble:

The text on page 3 (lines 7-8) indicates that historical cumulative CDM impacts are added back to system purchased energy. The text on page 4 (lines 14-16) goes on to explain the load forecast models are developed on a class basis.

a) Please confirm that the dependent kWh/day variable was based on the purchased energy for each customer class?
b) If purchased energy was the basis, please explain why it was used as opposed to using delivered energy by class.
c) If based on purchased energy, how were the monthly purchased energy values determined for each class (i.e., what loss factor was applied to the delivered energy for year/class)?
d) For those customer classes where calendar month based meter readings and, therefore, actual energy use were not available for all of the historical period (2002-2013), please explain how the kWh for each calendar month were established in order to derive the kWh/day dependent variable.
e) Please provide the data file (with formulae intact) that calculates the purchased kWh/day as set out in the file referenced above based on the monthly usage by class, where this monthly usage by class reconciles (for the years 2009-2013) with the actual annual usage by class set out in Table 3 (Exhibit 3/Tab 1/Schedule 1, Attachment B-1, page 1).

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

RESPONSE:

a) Toronto Hydro confirms that the dependent kWh/day variable was based on the purchased energy for each customer class.

b) As filed and approved by the OEB in previous rate applications, Toronto Hydro continues to use purchased energy as the basis for the dependent kWh/day because it represents the most reliable calendarized data available.

c) Purchased energy is allocated by customer class by month based on historical billed kWh percentages. The process of purchased energy allocation consists of the following steps. First, historic billed consumption is collected for each customer class. Second, billed kWh for each customer class are prorated to the months of actual consumption. Third, the percentages of the prorated consumption by class to the total prorated consumption for each month are calculated. Fourth, the derived percentages are applied to historic total purchased energy to get purchased energy by customer class.

d) Please see response to part (c).

e) The requested data file is provided in 3_VECC_20E.xlsx.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 21:

Reference(s): **Exhibit 3, September 23, 2014 Update Letter**

a) With respect to page 13, please explain what the sources and effect of the "updated" CDM estimates are (i.e., what was the source of the update and what years' values were impacted?).

b) Please explain how/why this update affected the estimation of the forecast models set out in Appendix A-2.

RESPONSE:

a) The development of the LRAMVA and load forecasts was dependent on Toronto Hydro CDM results from the OPA. The report provided by the OPA was an unverified version, which was subsequently updated in August 2014.

At the same time, Toronto Hydro's CDM project tracking system was updated to allow for improved rate class and monthly allocations. The CDM team recognized an opportunity to further enhance the accuracy of the LRAMVA claim by making additional changes to the original application to incorporate this improved information. With this new information, Toronto Hydro felt it was also appropriate to apply the new assumptions to each historical year. So while the update to the 2013 CDM results did not impact total CDM results prior to 2013, the more accurate class allocation assumptions were applied to historical results for the September update, where appropriate.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

b) The update of the CDM historical allocation by class by month had an effect on the kWh per day used as the dependent variable in the regression model and hence, on the outcome of the forecast models set out in Appendix A-2.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 22:

Reference(s): **Exhibit 3**
E3/T1/S1, page 3 and page 12
OEB Exh3_T01_S01_Modelling Input Data

Preamble:

The referenced data file contains historical CDM kWh/day for each customer class.

a) Please confirm that the cumulative CDM impacts used in the data file are "purchased energy impacts" and provide the relevant loss factors used for each class (by year).

b) Please provide a schedule that sets out the total gross CDM savings impact of each historic year's CDM programs on that year's and subsequent years' purchased energy in the following format:

Program Year	CDM Impact (Gross) by Calendar Year (MWh)							
	2006	2007	2008	2009	2010	2011	2012	2013
2006								
2007	X							
2008	X	X						
2009	X	X	X					
2010	X	X	X	X				
2011	X	X	X	X	X			
2012	X	X	X	X	X	X		
2013	x`	x	x	x	x	x	x	
Total								

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

c) Please provide either copies of the reports (or links to the OEB/OPA/THESL web-sites where they can be found) that support/validate the values set out in response to part (b) along with specific references to where in each document the relevant data is sourced from.

d) Please explain how the cumulative annual savings for each year were translated into monthly savings and illustrate the process using 2013 data.

e) Please explain more fully why, as indicated on page 12, THESL believes that gross CDM savings numbers are the correct values to apply in its load forecast modelling.

f) Has THESL undertaken any load forecast analyses using net CDM values? If so, please provide the models and the associated forecasts for 2015-2019.

g) If THESL has not undertaken load forecast analysis using net CDM values, please undertake the following:

  i) provide a revised data file with net CDM kWh/day by class (as opposed to gross CDM kWh/day by class);

  ii) provide revised load forecast equations for each class using this data;

  iii) provide forecasts for 2015-2019 by customer class using these models.

RESPONSE:

a) Toronto Hydro confirms that the cumulative CDM impacts in the data file are "purchased energy impacts". The table below shows the Loss Factors by customer class used for all years.

Residential	GS<50kW	GS 50-999kW	GS 1000-4999 kW	Large Use	Street Lighting	USL
1.0376	1.0376	1.0376	1.0376	1.0187	1.0376	1.0376

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

b) The table below includes the total gross CDM savings impact of each historic year's CDM programs on that year's and subsequent years' purchased energy.

Year	CDM impact (gross) by calendar year (MWh)*							
	2006	2007	2008	2009	2010	2011	2012	2013
2006	22,643	56,010	56,010	56,010	37,395	9,964	9,630	9,138
2007		105,464	297,429	234,304	226,833	226,830	166,548	40,551
2008			120,179	197,018	195,627	195,318	191,709	185,485
2009				102,547	193,516	183,543	183,516	182,780
2010					269,774	390,962	376,500	376,474
2011						120,256	325,476	325,235
2012							62,073	148,720
2013								73,090
Total	22,643	161,474	473,617	589,879	923,145	1,126,872	1,315,452	1,341,473

*CDM loads are excluding losses

c) The historical annual gross savings are taken from two different sources:

1) <u>2006 – 2010 Annual Gross Savings</u>: *2006-2010 Final OPA CDM Results – Toronto Hydro-Electric System Limited* (a copy of the data file has been attached as 3_VECC_22C.xlsx).

2) <u>2011 – 2013 Annual Gross Savings</u>: *Draft Verified Annual 2013 CDM Report – Toronto Hydro-Electric System Limited* (a copy has been filed as Exhibit 9, Tab 2, Appendix B). Please refer to the net savings in the table on page 4, and the net-to-gross conversion factors in the table on page 6.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

d) To translate the annual gross savings into monthly savings, the following steps were taken:

1) Each month was assigned a percentage of the annual savings that would be considered initiated in that month, and thus, projects beginning in that month would continue to produce savings for the next 12 consecutive months in order to achieve their percentage of the annual total. For example, for the portion of projects that initiated in January of a given year, annual savings would be realized by December of the same year. However, for the portion of total projects which were considered initiated in June of a given year, annual savings would be realized by May of the following year. As a result of this application, the savings reported by the OPA for any given calendar year would actually span that given year as well as the next, in a similar but more comprehensive manner to the "half-year" rule. The percentages assigned to each month were developed from the project completion records in Toronto Hydro's Customer Resource Management (CRM) system.

2) Typical program measures were assessed for their pattern of annual savings, so as not to allocate the same level of peak demand or consumption savings each month, without discretion. For example, peak demand and consumption savings related to programs involving cooling loads were considered 100% realized in the hottest months (July and August). However, the savings resulting from these projects were reduced accordingly in the shoulder and heating months. The primary resource for determining the seasonal allocation of savings was the OPA's Conservation Program Resource Planning Tool V3.3.

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e) Toronto Hydro believes that “gross“ historical and estimated CDM savings are the correct values to apply in to the load forecast, because it represents the real impact on the load used to develop the rates used to collect the Revenue Requirement.

f) Toronto Hydro has not undertaken load forecast analysis using Net CDM values.

g) Please refer to the attached data file: 3_VECC_22G.xlsx.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 23:

Reference(s): **Exhibit 3, Tab 1, Schedule 1, page 5 (lines 6-10)**

a) Did THESL undertake any similar analysis to determine whether 18 degrees Celsius was the appropriate balance point for the CDD measure?

b) If not, why not?

c) If yes, please provide the results.

RESPONSE:

a) Yes, a similar analysis was performed to make sure that 18 degrees Celsius was the appropriate temperature balance point for CDD measure.

b) Not applicable.

c) Figure 2, page 5 of Exhibit 3, Tab 1, Schedule 1 graphically displays the relationship between Toronto Hydro's historic purchased energy and average temperature. While the left hand side of the plotted relationship indicates the appropriate balance point for the HDD calculation, the right hand side illustrates the fact that the "cooling" load "builds up", displaying a clear linear relationship with average temperature at the point of 18 degrees and higher.

   When Toronto Hydro originally developed the HDD10 measure, statistical analysis was performed on the appropriate base temperatures for both HDD and CDD. CDD18 was determined to be appropriate.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

As an example of such analysis, the table below illustrates the "goodness of fit" of the regression models for all classes when CDD18 is replaced by CCD20 (CDD calculated based on the 20 degrees Celsius base temperature). In all cases, the models exhibit a poorer statistical fit.

Customer class	Adjusted R^2 with CDD18 (models as filed)	Adjusted R^2 with CDD20 (CDD base temperature of 20 degrees Celsius)
Residential	93.7%	85.8%
GS<50 kW	93.0%	89.7%
GS 50-1000 kW	95.2%	91.6%
GS 1-5 MW	87.0%	83.9%
Large Users	74.2%	71.4%

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 24:

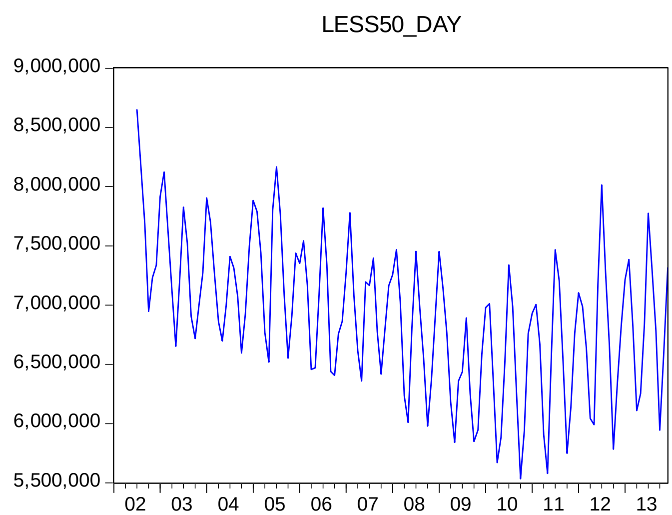
Reference(s): **Exhibit 3, Tab 1, Schedule 1, page 6**

a) Please document and/or illustrate the change in trend for the GS<50 and Large Use classes as between the 2002-2009 period and the 2010-2013 period.

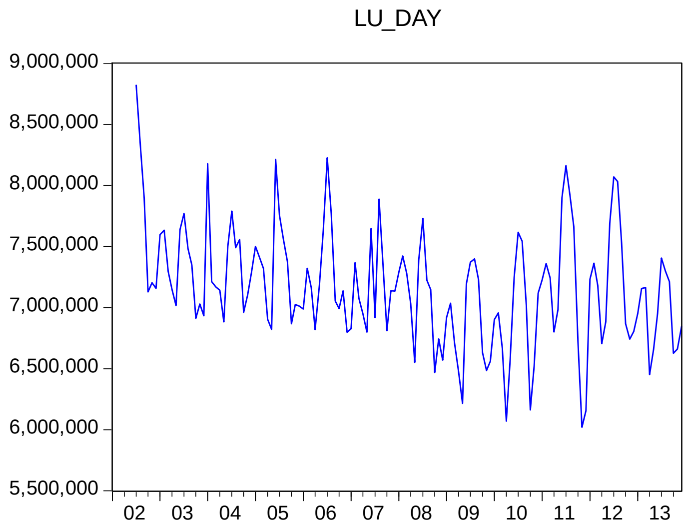
b) Please demonstrate that such a change in "trend" does not exist for the Residential and GS>50 classes.

RESPONSE:

a) The graphs below clearly illustrate the change in load trends for GS<50 kW and Large Users classes between 2009 and 2010 years.



RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES



The tables below contain an alternative forecast made based on a "standard" Linear Trend variable for the GS<50 kW and Large User classes. The comparison of the outcomes with the filed forecasts clearly demonstrates that linear trends are unreasonably lowering the forecasts values and not properly reflecting the latest tendencies in the explanatory variables.

Table 1: GS<50 kW Annual Delivered kWh

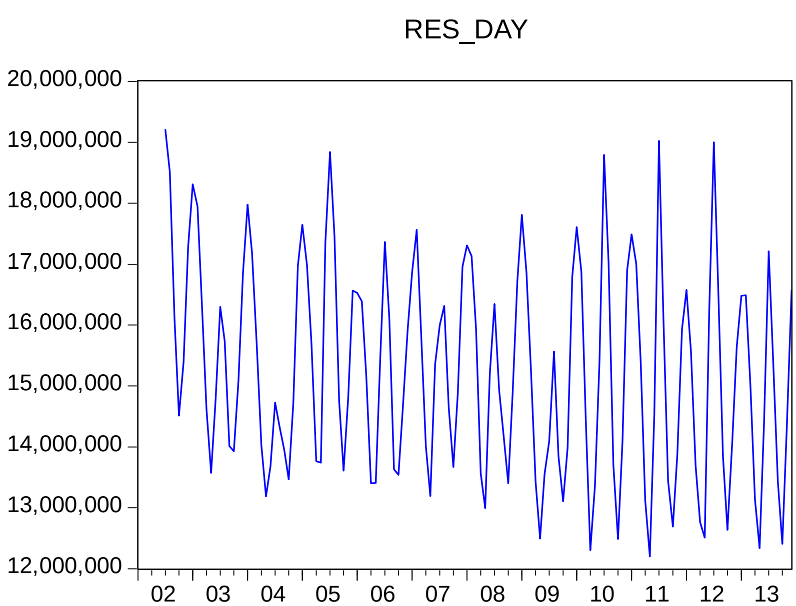
Year	Model as filed with Spline Trend	Model with Basic Linear Trend	Variance, %
2014	2,134,640,222	2,115,142,100	-0.9%
2015	2,118,402,162	2,075,471,386	-2.0%
2016	2,101,996,032	2,033,423,521	-3.3%
2017	2,058,843,341	1,964,927,570	-4.6%
2018	2,016,610,061	1,897,875,782	-5.9%
2019	1,986,965,125	1,843,277,270	-7.2%

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

Table 2: Large Users Annual Delivered kWh

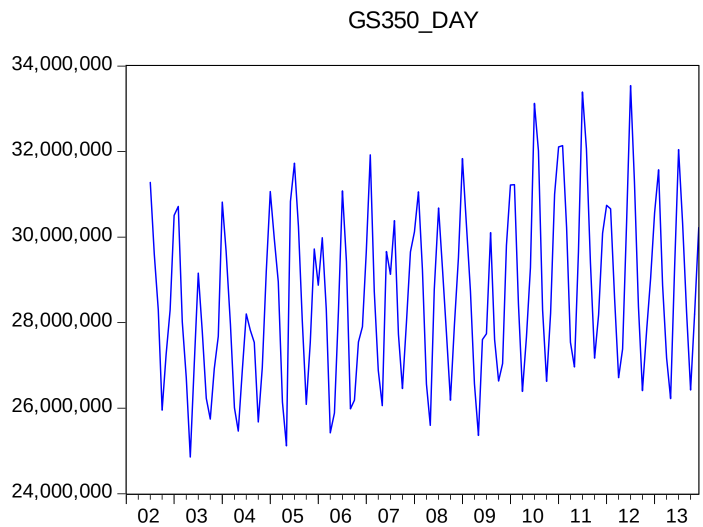
Year	Model as filed with Spline Trend	Model with Basic Linear Trend	Variance, %
2014	2,246,880,155	2,190,829,571	-2.5%
2015	2,228,386,374	2,155,421,973	-3.3%
2016	2,234,712,907	2,138,125,601	-4.3%
2017	2,229,642,449	2,114,551,592	-5.2%
2018	2,225,220,101	2,087,670,503	-6.2%
2019	2,229,610,682	2,072,396,458	-7.1%

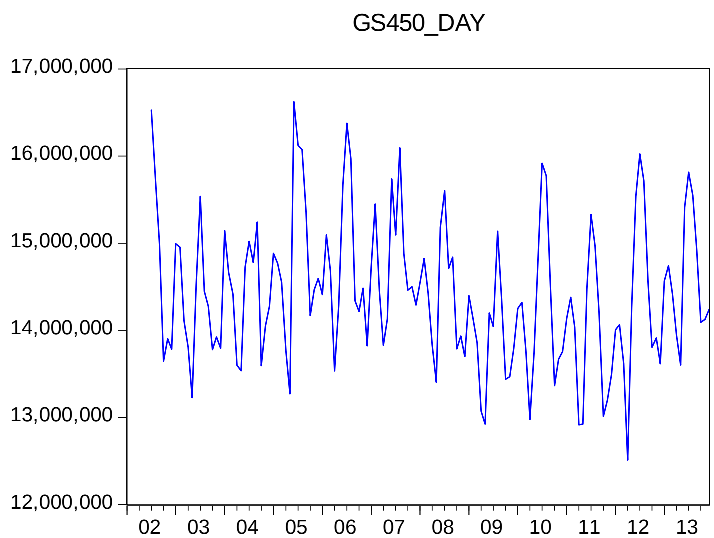
b) The graphs below illustrate the persistence of a declining trend in Residential load since July 2002.



RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

No trends were used in the GS 50-1000 kW and GS 1-5 MW class models.





RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 25:

Reference(s): **Exhibit 3, Tab 1, Schedule 1, page 7**

a) Given there is demonstrable trend in HDD and CDD why didn't THESL use the 20-year trend for each for purposes of its load forecast?

RESPONSE:

a) Toronto Hydro has used the 10-year average as its basis for the weather forecast in its previous filings. This approach was approved by the OEB in Toronto Hydro's prior rate applications. Additionally, based on its research as well as discussions with meteorological services, Toronto Hydro continues to believe that the usage of the 10-year average is relevant for the purposes of load forecasting.

However, as required by the OEB Filing Requirements, Toronto Hydro has also filed the alternative load forecast based on the 20-year HDD and CDD trend (refer to Table 1. Exhibit 3, Tab 1, Schedule 1, Appendix F-2). The variances presented in column 4 of the table clearly demonstrate that the difference in load forecasts based on the 10-year weather averages vs. 20-year trend is immaterial.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 26:

Reference(s): Exhibit 3, Tab 1, Schedule 1, page 8

a) What is the source for the historic population and unemployment values used in developing the load forecast models?

b) Does this historic data differ (in terms of definition) from the forecast values produced by the Conference Board of Canada? If so, how was this accounted for in the load forecast?

c) Please provide the Conference Board forecast used and indicate the date it was published.

d) Is there a more recent Conference Board forecast now available? If so, please provide.

e) Why was it necessary to "derive" the unemployment and population forecasts used in load forecast analysis as opposed to directly using the forecasts from the Conference Board of Canada?

f) Please explain in more detail how the unemployment and population forecasts were "derived".

g) What "loss factors" were used for each customer class to translate the 2015-2019 forecasts by customer class from "purchased" to "delivered energy"?

h) Please provide a data file that shows for 2015-2019:

   i) The calculation of the "purchased kWh/day by class (before CDM adjustments) using the load forecast model proposed for each.

   ii) The derivation of the annual kWh by class, as set out in Table 3 (Exhibit 3/Tab 1/Schedule 1, Attachment B-1, page 1).

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

RESPONSE:

a) Toronto Hydro used two sources of data for Unemployment Rate and Population: the Conference Board of Canada (quarterly historic and forecast data) and the Labour Force Study data from the City of Toronto (monthly historic data). City of Toronto data was used as independent social and economic variables in the class models because the data frequency match the load data, and more closely matches Toronto Hydro's operating area. The Conference Board of Canada data was used to derive the forecast for the City of Toronto Population and Unemployment data.

b) The historic population data provided by the City of Toronto includes only City of Toronto residents. The Conference Board of Canada data includes the population for the entire Toronto Census Metropolitan Area, which expands beyond the City of Toronto. A linear correlation between the two data sets was used to produce the forecast of the City of Toronto population variable for class load models.

c) The Conference Board of Canada data used for the forecast was obtained on February 3, 2014. Please refer to the attached electronic data file: 3_VECC_26CandD.xlsx.

d) The most recent Metropolitan Data by the Conference Board of Canada are dated August 26, 2014. Please refer to the attached electronic data file: 3_VECC_26CandD.xlsx.

e) The Conference Board of Canada data is quarterly annualized and includes population outside of Toronto, whereas Toronto Hydro's modelling is done on a monthly basis. Therefore, Toronto Hydro believes that using monthly historic data for the City of Toronto results in better explanatory properties of the models.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

f) The population and unemployment rate forecasts were built using regression modelling. Simple pair regression models were built to estimate the relationship between the City of Toronto data and the Conference Board of Canada data. The significance of the regressions/coefficients and high R^2 values provide a high level of confidence to produce the forecasts of the City of Toronto population and unemployment rate based on the corresponding forecasts provided by the Conference Board of Canada.

g) The total loss factors used to convert class purchased energy kWh into "delivered kWh" are presented in the table below.

Customer class	Loss factor value
Residential	1.0376
GS<50 kW	1.0376
GS 50-999 kW	1.0376
GS 1000-4999 kW	1.0376
Large Use	1.0187
Street Lighting	1.0376
USL	1.0376

h) The requested data file is provided as 3_VECC_26H.xlsx.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 27:

Reference(s): **Exhibit 3, Tab 1, Schedule 1, page 10**
OEB Exh3_T01_S01_Modelling Input Data

Preamble:

Although the CSMUR class was not created until 2013 it is noted that historical values are reported starting in December 2007.

a) Since there has been no analysis presented relating CSMUR usage with weather, please explain how the CSMUR usage for 2012 was "weather corrected".
b) Do the historical Residential kWh/day values for the period prior to December 2007 include any usage by customers that would now be classified as CSMUR?
c) If so, doesn't this distort the data used to develop the Residential load forecast model?

RESPONSE:

a) The basis for the CSMUR average usage data was the analysis presented in Toronto Hydro's EB-2010-0142 case (the basis for establishing this new class). In order to put this average use on the same CDD/HDD forecast basis as the other classes, this usage was normalized to the current ten-year historical average of HDD 10 and CDD 18.

b) Toronto Hydro believes there are no customers and corresponding usage that would fall under the definition of the CSMUR class prior to December 2007.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

c) Not applicable.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 28:

Reference(s): **Exhibit 3, Tab 1, Schedule 1, page 10**

a) Please confirm that the forecast monthly peak demand referred to at lines 18-19 is the forecast billing peak demand for the class as opposed to the class' Non-Coincident or Coincident peak demand.

b) Please provide the "historic relationship between energy and demand" used for each class (per lines 19-20) and indicate how it was determined.

c) Please clarify which of the following approaches is used to calculate the billing demand for the relevant customer classes (net of CDM):
   - Approach 1: First, forecast billed energy by class (prior to removing CDM); then second, apply historic relationship between energy and billed demand to determine billed demand (prior to removing CDM) and, finally, remove cumulative CDM impacts on billing demand (per Table 5), OR
   - Approach 2: First forecast billed energy by class (prior to removing CDM); then second, remove the cumulative energy CDM impacts and, finally, apply historic relationship between energy and billed demand to determine billed demand (with CDM removed).

d) If Approach 1 was used please set out how the cumulative demand impacts (per Table 5) were calculated. In particular, where they determined by applying the historic energy-demand relationship for the class to the cumulative energy impacts in Table 4? If not, please provide a schedule that sets out the determination of the values in Table 5.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

RESPONSE:

a) Confirmed.

b) The historic relationships between energy and demand are quantified using "billing factors". Billing factors are coefficients calculated based on historic billing determinants (the data from the billing system):

- Hours used is defined as billed kWh divided by billed kW
- Power Factor is defined as billed kW divided by billed kVA

A three-year average is used for each billing factor as an approximation of the expected relationship between billed energy and demand. The table below contains the estimated billing factor values for the forecasting horizon for each customer class.

	GS 50-999 kW		GS 1000-4999 kW		Large Use	
	Hours Used	Power Factors	Hours Used	Power Factors	Hours Used	Power Factors
Jan	449	94%	516	93%	481	93%
Feb	458	94%	524	93%	487	93%
Mar	431	93%	513	92%	485	93%
Apr	422	92%	491	92%	471	93%
May	418	90%	488	91%	462	92%
Jun	413	90%	485	91%	451	92%
Jul	443	90%	500	91%	463	92%
Aug	432	90%	499	91%	474	92%
Sep	409	90%	480	91%	455	92%
Oct	415	91%	493	91%	467	92%
Nov	441	93%	517	92%	476	93%
Dec	437	93%	496	92%	461	93%

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

c) Toronto Hydro confirms that Approach 1 was used to calculate the billing demand for the relevant customer classes (net of CDM).

d) The CDM demand reduction forecast was determined by applying the 2013 historic energy-demand savings relationships taken from current CDM programs, rather than the rate class billing factors. As the current CDM forecasting efforts are focused on energy savings, ratios were developed to produce the forecasted demand savings. Since the historical verified CDM results include both energy and demand savings attributed to each program, the relationship between these two values was used to determine the forecast demand savings associated with future energy savings from each historical programs.

However, the forecast also includes savings allocated to potential new programs for 2015-2020, which at the time were not fully developed. In these cases, the average of the energy-demand ratios taken from the historical verified results for the appropriate sector (Residential or General Service) were applied.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 29:

Reference(s): Exhibit 3, Tab 1, Schedule 1, page 11

a) Are the 7 TWh provincial total and THESL's share of 1.5 TWh Gross CDM or Net CDM values? If net, what is the "gross" equivalent and how was it calculated?

RESPONSE:

a) Both the provincial CDM total and Toronto Hydro's share are net CDM values. To determine the gross equivalent, best estimates of overall residential and non-residential net-to-gross ratios were derived from the 2013 historical verified results and these conversion factors were applied to all 2014 to 2019 future savings.

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INTERROGATORY 30:

Reference(s): **Exhibit 3, Tab 1, Schedule 1, pages 12-14**

a) Please complete the following schedule:

CDM Program Year	Forecast Gross CDM Impact by Calendar Year (MWh)					
	2014	2015	2016	2017	2018	2019
2006						
2007						
2008						
2009						
2010						
2011						
2012						
2013						
2014						
2015	X					
2016	X	X				
2017	X	X	X			
2018	X	X	X	X		
2019	X	X	X	X	X	
Total						

In doing so please ensure:

- The annual totals for 2014 to 2019 match those set out in Table 4 (Exhibit 3/Tab 1/Schedule) or explain why they do not.

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- The table entries for the 2014-2019 program years match those set out in Table 6 or explain why they do not.

b) Please explain more fully how the values in Tables 5 and 7 were derived.

c) Please provide a schedule that sets out for each customer class and for the THESL overall for the individual years 2006-2013:

i) The annual delivered energy (net of CDM) – consistent with Appendix B-1, Table 1

ii) The annual purchased energy (net of CDM) (i.e., (i) adjusted for losses)

iii) The historic cumulative CDM savings for each year (at the purchase level) consistent with the modelling data input.

iv) The annual purchases (grossed up by CDM) consistent with the modelling input data (i.e. (ii) + (iii)).

d) Please provide a schedule that sets out for each customer class and for THESL overall for the years 2014-2019:

i) The forecast of annual purchased energy (grossed up for CDM) based on the forecasting models.

ii) The assumed cumulative CDM savings for each year (at the purchase level) consistent with the modeling data input (i.e. Table 4).

iii) The assumed annual purchases net of CDM (i.e., (i) – (ii))

iv) The forecast total delivered energy – consistent with Appendix B-1, Table 1.

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RESPONSE:

a) Please see the table below:

Year	Forecast Gross CDM Impact by Calendar Year, MWh					
	2014	2015	2016	2017	2018	2019
2006	8,922	8,604	8,418	8,145	8,145	8,145
2007	40,551	33,385	17,469	14,397	12,062	12,062
2008	169,730	143,832	123,978	100,935	88,060	87,072
2009	179,820	173,975	163,892	132,442	91,029	66,835
2010	375,417	338,368	275,829	242,065	218,757	137,182
2011	324,863	323,128	320,221	316,837	311,448	307,827
2012	148,038	147,848	146,996	144,351	139,794	141,633
2013	171,597	169,593	165,585	159,644	151,130	140,527
2014	92,021	227,454	224,889	219,698	211,783	200,718
2015		99,619	246,300	243,546	237,924	229,353
2016			120,946	298,801	295,377	288,559
2017				147,823	365,202	359,874
2018					141,104	348,601
2019						127,665
Total	1,510,960	1,665,807	1,814,523	2,028,684	2,271,814	2,456,053

b) The cumulative forecast CDM demand impacts in Table 5 (Exhibit 3, Tab 1, Schedule 1) consist of incremental CDM savings for the current years plus the conservation and efficiency measure persistence from the prior years. The total gross forecast CDM demand impacts in Table 7 (Exhibit 3, Tab 1, Schedule 1) include incremental and persistence CDM savings starting from 2014 only. Please refer to Toronto Hydro's response to 3-VECC-28 part (d) for more details.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

c)

i) Annual Delivered energy (net of CDM), MWh

Year	Total	Residential	CSMUR	GS <50 kW	GS 50-999 kW	GS 1000-4999 kW	Large Use	Street Lighting	Unmetered Scattered Load
2006	25,518,717	5,298,514	13	2,453,136	9,814,888	5,184,936	2,600,460	110,621	56,150
2007	25,754,686	5,328,009	2,759	2,446,284	10,068,862	5,191,114	2,549,634	111,053	56,971
2008	25,141,414	5,167,623	9,068	2,315,274	10,000,241	5,009,791	2,471,249	111,324	56,846
2009	24,349,729	5,002,032	23,823	2,180,476	9,844,681	4,786,396	2,343,906	112,001	56,414
2010	24,751,657	5,156,666	50,171	2,095,766	10,191,135	4,829,372	2,263,690	112,750	52,107
2011	24,701,254	5,091,639	81,040	2,085,498	10,275,861	4,670,666	2,340,746	113,045	42,759
2012	24,564,922	5,033,529	112,183	2,124,568	9,978,193	4,794,684	2,367,028	113,595	41,142
2013	24,424,304	4,951,919	140,700	2,157,353	9,842,128	4,905,371	2,272,056	113,644	41,132

ii) Annual Purchased Energy (net of CDM), MWh

Year	Total	Residential	CSMUR	GS <50 kW	GS 50-999 kW	GS 1000-4999 kW	Large Use	Street Lighting	Unmetered Scattered Load
2006	26,429,072	5,497,738	13	2,545,374	10,183,928	5,379,890	2,649,089	114,780	58,262
2007	26,674,874	5,528,342	2,862	2,538,265	10,447,451	5,386,300	2,597,313	115,229	59,113
2008	26,040,025	5,361,926	9,408	2,402,328	10,376,250	5,198,159	2,517,461	115,510	58,983
2009	25,220,979	5,190,109	24,719	2,262,462	10,214,841	4,966,364	2,387,737	116,212	58,535
2010	25,639,535	5,350,556	52,057	2,174,567	10,574,322	5,010,957	2,306,021	116,989	54,067
2011	25,585,782	5,283,085	84,088	2,163,913	10,662,233	4,846,283	2,384,518	117,295	44,367
2012	25,443,826	5,222,790	116,401	2,204,452	10,353,373	4,974,964	2,411,291	117,866	42,689
2013	25,299,716	5,138,111	145,991	2,238,470	10,212,192	5,089,813	2,314,544	117,917	42,679

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iii) Historic cumulative CDM savings (adjusted for losses), MWh

Year	**Total**	**Residential**	**CSMUR**	**GS <50 kW**	**GS 50-999 kW**	**GS 1000-4999 kW**	**Large Use**
2006	23,495	23,495	-	-	-	-	-
2007	167,263	104,575	-	15,462	16,547	15,481	15,199
2008	490,133	207,361	-	69,389	72,762	70,957	69,664
2009	609,966	184,883	83	100,173	104,202	107,827	112,798
2010	954,133	214,509	333	173,242	178,181	187,255	200,613
2011	1,164,865	216,524	680	223,917	252,944	234,869	235,932
2012	1,360,360	240,781	1,270	261,313	350,447	261,136	245,412
2013	1,387,802	250,110	1,582	265,269	404,035	245,249	221,557

iv) Annual Purchased Energy (gross of CDM), MWh

Year	**Total**	**Residential**	**CSMUR**	**GS <50 kW**	**GS 50-999 kW**	**GS 1000-4999 kW**	**Large Use**	**Street Lighting**	**Unmetered Scattered Load**
2006	26,452,567	5,521,232	13	2,545,374	10,183,928	5,379,890	2,649,089	114,780	58,262
2007	26,842,137	5,632,917	2,862	2,553,727	10,463,998	5,401,781	2,612,511	115,229	59,113
2008	26,530,158	5,569,287	9,408	2,471,717	10,449,012	5,269,115	2,587,125	115,510	58,983
2009	25,830,945	5,374,992	24,802	2,362,635	10,319,043	5,074,191	2,500,535	116,212	58,535
2010	26,593,668	5,565,065	52,390	2,347,809	10,752,502	5,198,211	2,506,634	116,989	54,067
2011	26,750,647	5,499,608	84,767	2,387,829	10,915,177	5,081,152	2,620,450	117,295	44,367
2012	26,804,186	5,463,571	117,671	2,465,765	10,703,820	5,236,100	2,656,703	117,866	42,689
2013	26,687,518	5,388,221	147,573	2,503,739	10,616,227	5,335,062	2,536,100	117,917	42,679

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d)

i) Purchased Energy Forecast (Gross of CDM), MWh

Year	Total	Residential	CSMUR	GS <50 kW	GS 50-999 kW	GS 1000-4999 kW	Large Use	Street Lighting	Unmetered Scattered Load
2014	26,581,918	5,378,058	180,243	2,518,809	10,695,430	5,127,551	2,520,962	118,186	42,679
2015	26,717,287	5,351,790	223,444	2,537,647	10,821,824	5,112,373	2,509,148	118,383	42,679
2016	26,905,646	5,341,944	267,914	2,554,735	10,919,365	5,141,575	2,518,347	118,970	42,796
2017	26,941,980	5,299,322	303,788	2,557,026	10,955,323	5,144,351	2,520,715	118,776	42,679
2018	27,049,338	5,273,101	341,067	2,564,451	11,022,230	5,159,298	2,527,540	118,973	42,679
2019	27,154,864	5,246,882	380,388	2,572,330	11,086,803	5,170,422	2,536,190	119,170	42,679

ii) Cumulative CDM forecast (adjusted for losses), MWh

Year	Total	Residential	CSMUR	GS <50 kW	GS 50-999 kW	GS 1000-4999 kW	Large Use
2014	1,563,466	259,277	1,919	303,907	500,871	265,428	232,066
2015	1,724,005	257,279	2,314	339,593	602,901	282,827	239,091
2016	1,878,262	251,873	2,780	373,704	711,116	296,944	241,845
2017	2,100,335	265,213	3,312	420,770	843,607	318,055	249,378
2018	2,352,397	285,173	3,888	472,016	986,638	343,974	260,708
2019	2,543,486	293,070	4,471	510,655	1,109,236	361,168	264,886

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1 iii) Purchased Energy Forecast (Net of CDM), MWh

Year	**Total**	**Residential**	**CSMUR**	**GS <50 kW**	**GS 50-999 kW**	**GS 1000-4999 kW**	**Large Use**	**Street Lighting**	**USL**
2014	25,018,451	5,118,781	178,325	2,214,903	10,194,559	4,862,123	2,288,897	118,186	42,679
2015	24,993,282	5,094,510	221,130	2,198,054	10,218,923	4,829,546	2,270,057	118,383	42,679
2016	25,027,385	5,090,072	265,134	2,181,031	10,208,249	4,844,631	2,276,502	118,970	42,796
2017	24,841,644	5,034,108	300,476	2,136,256	10,111,716	4,826,296	2,271,337	118,776	42,679
2018	24,696,941	4,987,928	337,179	2,092,435	10,035,592	4,815,323	2,266,832	118,973	42,679
2019	24,611,378	4,953,811	375,917	2,061,675	9,977,567	4,809,255	2,271,304	119,170	42,679

2 iv) Delivered Energy Forecast (Net of CDM), MWh

Year	**Total**	**Residential**	**CSMUR**	**GS <50 kW**	**GS 50-999 kW**	**GS 1000-4999 kW**	**Large Use**	**Street Lighting**	**USL**
2014	24,152,773	4,933,289	171,862	2,134,640	9,825,134	4,685,931	2,246,880	113,903	41,132
2015	24,128,179	4,909,898	213,117	2,118,402	9,848,615	4,654,536	2,228,386	114,093	41,132
2015	24,161,161	4,905,620	255,526	2,101,996	9,838,327	4,669,074	2,234,713	114,659	41,245
2015	23,982,059	4,851,685	289,588	2,058,843	9,745,293	4,651,403	2,229,642	114,472	41,132
2015	23,842,519	4,807,178	324,961	2,016,610	9,671,928	4,640,828	2,225,220	114,662	41,132
2015	23,760,137	4,774,298	362,294	1,986,965	9,616,006	4,634,979	2,229,611	114,851	41,132

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INTERROGATORY 31:

Reference(s): Tab 1, Schedule 1, page 14 and Appendix C1

a) Please explain more fully how the customer count for each class was "extrapolated" from historic levels.
b) Please explain how the separate customer count forecasts for the Residential and CSMUR classes were developed.
c) Please explain the basis for the 2014 Large Use class customer count.
d) Please provide the customer count for each class as of June 30, 2014.

RESPONSE:

a) Customer forecasts are based on linear and non-linear trend models, as well as information on customer reclassification, where available. Different trend models were tested and the models producing the best fit and forecast were used. For the CSMUR class, projections for new customers were based on internal estimates of new and retrofit activities. The following table summarizes the models used for each class.

Customer Class	Model Used
Residential	Linear Trend
CSMUR	Internal Estimates
GS< 50 kW	Linear Trends, plus reclass information
GS 50-999 kW	Combination of Linear and Non-linear trends, plus reclass information
GS 1000-4999 kW	Linear Trend plus reclass information

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Customer Class	Model Used
Large Use	Linear Trend plus reclass information
Street-lighting	Linear Trend
Unmetered Scattered Load	Flat forecast

b) For the purposes of Residential class forecasting, the historic monthly CSMUR customers were subtracted from the Residential customer counts (which originally included CSMUR customers). A linear trend was then applied to the historical residential customers only. The CSMUR class, as noted in part (a) above, was forecasted based on internal estimates of new and retrofit activities.

c) The expected number of large user customers in 2014 is lower than 2013 due to customer reclassification.

d) Please see the table below:

Customer class	Number of customers as of June 30, 2014
Residential	609,928
Competitive Sector Multi-Unit Residential	43,022
GS<50 kW	69,078
GS 50-1000 kW	11,852
GS 1-5 kW	447
Large Users	47
Street Lighting (Devices)	163,810
USL (customers)	888
USL (connections)	11,754

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INTERROGATORY 32:

Reference(s): Exhibit 3, Tab 1, Schedule 1, page 12

a) Is THESL aware of any other Ontario electricity distributor that has based its load forecast CDM adjustments on estimates of "gross" CDM savings?
b) Please explain why, if the CDM adjustments made by THESL are based on "gross" CDM savings the LRAMVA should only be based on "net" CDM savings.
c) For each of the years 2015-2019 please set out THESL's proposal, by customer class, for the CDM savings (kWh or kW as applicable) that it views should be used as the basis for calculating the LRAMVA.

RESPONSE:

a) Toronto Hydro does not know whether other electricity distributors use net or gross savings for the purposes of their distribution load forecasts. Toronto Hydro maintains that the load forecast that is used to determine distribution rates most appropriately includes gross CDM savings, since these will contribute to the loads that the distributor ultimately charges rates on.

b) Toronto Hydro believes that LRAMVA savings should properly be based on gross CDM savings, and in a previous LRAM application provided its LRAM amounts on that basis. However, Toronto Hydro also understands that the LRAMVA guidelines clearly indicate that LRAMVA is to be based on net CDM savings, and accepts that for the purposes of LRAMVA claims. However, Toronto Hydro maintains that for

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the purposes of load forecasts used to develop distribution rates, gross CDM savings are most appropriately reflected in the forecast.

c) The table below shows the "net" incremental CDM estimates, which correspond with the gross CDM amounts used in the load forecast.

Customer Class	2015		2016		2017		2018		2019	
	MWh	MW	MWh	MW	MWh	MW	MWh	MW	MWh	MW
Residential	7,114		25,586		48,299		74,624		98,349	
CSMUR	144		522		987		1,528		2,016	
GS <50 kW	15,220		55,011		104,079		161,060		212,478	
GS 50-999 kW		73.1		238.2		417.2		588.4		736.2
GS 1000-4999 kW		19.8		64.4		112.8		159.1		199.1
Large Use		19.1		62.1		108.9		153.5		192.1
Total	22,479	112.0	81,119	364.7	153,366	638.9	237,213	901.0	312,843	1,127.4

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INTERROGATORY 33:

Reference(s): **Exhibit 3, Tab1, Schedule 1, Appendix A-1**

a) Please provide an electronic version of Appendix A-1 where the forecast monthly 2014-2019 values for columns 2-9 are included and the calculation of the annual delivered energy by customer class (per Appendix B-1, Table 1) is performed.

RESPONSE:

Please refer to the electronic file 3_VECC_26H.xlsx provided as part of Toronto Hydro's response to interrogatory 3-VECC-26.

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INTERROGATORY 34:

Reference(s): Exhibit 3, Tab 2, Schedule 1, pages 1-7

a) Please confirm that the values shown in Tables 1 & 2 are in millions of dollars and the Appendix 2-H values are in thousands of dollars.

b) With respect to page 2 (lines 18-23) does the $8.1 M cover all of the OM&A costs incurred by THESL for the maintenance street-lighting assets? If not, what is the difference?

c) Please confirm that the interest income shown excludes any interest income/expense associated with deferral or variance accounts.

RESPONSE:

a) The values shown in Table 1 are in millions of dollars. The values shown in Table 2 and Appendix 2-H are in thousands of dollars.

b) Yes. The $8.1 million covers all of the OM&A costs incurred by Toronto Hydro for the maintenance street-lighting assets. Please refer to Exhibit 2A, Tab 5, Schedule 1, page 23 for details.

c) Confirmed. The interest income shown excludes any interest income/expense associated with deferral or variance accounts.

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INTERROGATORY 35:

Reference(s): **Exhibit 3**
Exhibit 8, Tab 1, Schedule 1, p. 7

a) Where are the customers, loads and revenues from THESL's Standby Power Service Classification reflected in Exhibit 3? Please address separately the revenues from the Service Charge and the revenues from the Distribution Volumetric Rate.

b) Please provide a schedule that sets out for each of the years 2010-2013 the following:
   i) The number of Standby Power customers,
   ii) The billed kW (by customer class)
   iii) The annual revenues from Standby Power charges.

c) What are the forecast billing quantities and associated revenues for 2014 and 2015?

RESPONSE:

a) The historic and forecast customers, loads and revenues in Exhibit 3 do not include any loads or revenue from the Standby Volumetric rate. The standby volumetric rate is only applicable if a co-generation unit has been operational for an entire billing cycle and the customer has not utilized standby facilities. Historically, Toronto Hydro's Standby customers have utilized the standby facilities each month of each billing cycle, and have not incurred any volumetric standby charges. Their historical and forecast loads and revenues are included in the rate classes the customer resides in. Based on historical information, Toronto Hydro does not forecast any standby revenue.

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b)

i) There are four customers with load displacement co-generations.

ii) For the billed kW/kVA (by customer class) please see table below. As noted in part (a) above, the billed kVA amounts were billed under the standard distribution rates, not under the Standby rates.

Year	Annual Billed kVA GS - 1000 to 4999 kW	Annual Billed kVA LU
2010	48,152	658,768
2011	47,464	589,676
2012	46,331	544,921
2013	34,546	527,095

iii) Please see the table below for the Standby customers annual distribution revenue. The only revenue from the Standby service is the monthly Standby Service Charge.

Year	Customer Charge	Standby Service Charge	Distribution Charge	Standby Volumetric Charge	Total
2010	$ 84,474	$ 9,632	$2,420,051	$ -	$2,514,157
2011	$ 87,639	$ 9,632	$2,511,806	$ -	$2,609,077
2012	$ 106,640	$ 9,651	$2,762,775	$ -	$2,879,066
2013	$ 118,851	$ 9,672	$2,668,590	$ -	$2,797,113

c) Please see part (a).

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INTERROGATORY 36:

Reference(s): **Exhibit 4A, Tab 2, Schedule 1, page 13**

a) It states on page 13 that in 2013 there were a total of 252 incidents of overhead asset failures – excluding major day events. Please provide the equivalent figures for 2010 through 2014 to-date.

RESPONSE:

a) Please see Table below.

Year	Number of Overhead Asset Failure Incidents
2014 (Up to October 21st)	247
2013	252
2012	218
2011	299
2010	325

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INTERROGATORY 37:

Reference(s): Exhibit 4A, Tab 2, Schedule 1, page 34

a) It is unclear as to whether Table 5 represents the vegetation management budget of THESL for 2011 through 2015. If not please provide this. If there is a projected increase in the 2015 vegetation management budget from 2014 please explain this in light of the extraordinary amount of tree trimming that was done due to the 2013/14 ice-storm.

b) In 2014 THESL renewed its tree pruning service contract at a 16% increase. Please quantify the impact this had on 2015 vegetation management. Please identify how long this contract is for. In renewing this contract explain whether the post ice-storm demand for vegetation management had an impact of the service contract.

RESPONSE:

a) Table 5 represents Toronto Hydro's Vegetation Management budget for 2011 through 2015. The increase in expenditures in 2015 is attributed to two factors: (1) an increase in market prices provided by contractors; and (2) a need to increase accomplishments to mitigate safety, system reliability and financial risks, especially during severe weather.

The forestry work that was executed in response to the 2013 ice storm can be categorized as follows: (1) removal of fallen tree limbs and branches on primary conductors, secondary buses and service wires, and (2) cutting and removal of damaged tree limbs and branches that may have broken and further impacted the

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overhead distribution system. The work performed was of emergency nature and focused exclusively on the trees that sustained damage. No cycle pruning activities that comprise typical vegetation maintenance work took place as part of the ice storm response. The increase in the 2015 budget is not related to the ice storm.

b) The 16% increase to Toronto Hydro's tree trimming contract resulted in an approximate overall increase of $0.6 million to the 2015 planned expenditures. This increase is included in the $4.4 million (2015) budget. The duration of Toronto Hydro's Vegetation Management contract is six years.

The post-ice storm demand did not have an impact on the service contract. The competitive bidding process was commenced prior to the ice storm.

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INTERROGATORY 38:

Reference(s): Exhibit 4A, Tab 2, Schedule 1, p.71

a) THESL states that the failure rate of smart meters is 1.5%. How does this compare to the failure rate of the previous generation of conventional meters that were replaced? What is THESL's estimate of the incremental cost of smart meter maintenance as compared to the previous generation of thermal meters?

RESPONSE:

a) Records from prior to Toronto Hydro's smart meter program indicate that failure rates for conventional meters were below 0.5%. More recent or precise failure rates are not available as conventional meter failures were not tracked and recorded as these meters were upgraded to smart meters regardless of the status of the meter.

Smart meters are equipped with meter health detection and alarms. This enables Toronto Hydro to quickly and more accurately detect meter failures, as opposed to conventional meters which were typically only investigated if billing thresholds were surpassed or customer complaints existed. This ability to more accurately detect a meter failure will result in a higher number of failures being reported.

As a cost comparison, Toronto Hydro's average maintenance costs for conventional meters prior to the smart meter program (i.e., in years 2004 and 2005) was $1.0 million compared to $0.4 million for smart meters in 2015.

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INTERROGATORY 39:

Reference(s): **Exhibit 4A, Tab 2, Schedule 2, page 7**

Pre-amble:

With respect to Corrective Maintenance, the evidence sates:

Historic expenditures have shown a downward trend due to an increasing emphasis in recent years on planned capital and preventative maintenance activities, particularly on distribution assets, and more efficient corrective work execution practices.

a) Yet Table 2 shows an increase in 2015 in this category and notwithstanding the proposed major increases in the capital budget. Please explain the reason for this.

Reference: **Exhibit 4A, Tab 2, Schedule 3**

b) Please articulate the difference between the Emergency Response program ($15.3 million) and the Disaster Preparedness Management Program ($2.4 million).

RESPONSE:

a) The increase in corrective maintenance spending in 2015 is primarily attributed to the inclusion of $1.6 million for corrective maintenance of assets that were formerly part of the street lighting system. More information is found on page 8 of Exhibit 4A, Table 2, Schedule 2, which states:

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> "Despite the above, reduction in expenditures to the level experienced in 2013 are not sustainable in the short term. As described in the Preventative & Predictive Maintenance program, Toronto Hydro continues to identify a large number of deficiencies on both distribution and stations assets. Furthermore, significant proportions of these assets have surpassed their expected lives and are at an increasing risk of failure. As a result of this combination of factors, Toronto Hydro is forecasting that corrective expenditures will exceed 2013 levels in 2014 and 2015.
>
> Corrective Maintenance expenditures are well below the levels experienced in 2011 and 2012."

b) The Emergency Response program funds the utility's emergency response activities related to addressing unplanned events involving Toronto Hydro's distribution system assets. Response coverage is provided on a 24-hour, 7 days a week, 365 days a year basis. Activities include the planning, communication, coordination, and execution of work to address system emergencies. Emergency response is required for a wide variety of reasons including but not limited to equipment failure, severe weather, power quality issues, motor vehicle accidents, dig-ins, equipment isolations and Toronto Emergency Services needs (police, fire and ambulance).

The Disaster Preparedness Management ("DPM") program supports Toronto Hydro's Emergency Response program by enhancing the planning, communication and coordination of work prior to, during and after major events, across the utility and in relation to customers and key stakeholders. A key focus of the DPM program is ensuring that the utility can operate safely, efficiently and effectively for an extended

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period of time under conditions of major duress, To accomplish this objective, the program entails a range of planning, training and simulation exercise activities, along with negotiation of Mutual Aid Agreements with utilities with similar service areas. . Please refer to Exhibit 4A, Table 2, Schedules 3 to 4 for more information about these programs.

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INTERROGATORY 40:

Reference(s): Exhibit 4A, Tab 2, Schedule 14, pages 38-43

a) Please provide the training and conference budgets for THESL for the years 2011 through 2015 in the following format:
- Technical/engineering training;
- Other training;
- Executive /senior management training/conferences & travel

RESPONSE:

Please see table the below:

Category ($M)	2011 Actual	2012 Actual	2013 Actual	2014 Bridge	2015 Test
Technical/Engineering Training	0.23	0.07	0.12	0.21	0.25
Other Training	0.99	1.09	1.21	1.12	1.12
Executive /Senior management training/conferences & travel	0.01	0.04	0.17	0.04	0.04
Total	1.23	1.19	1.49	1.36	1.40

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INTERROGATORY 41:

Reference(s): Exhibit 4A

a) Please provide the EDA membership fees paid or forecast to be paid by THESL for 2011 through 2015. Please provide separately other corporate memberships.

b) Does THESL procure insurance through the MEARIE Group? If yes please provide the premiums paid for 2011 through 2015 (forecast). Were all property liability insurance services provided for through a tender or other competitive process or were they sole sourced?

RESPONSE:

a) Please see the table below:

	2011 Actual	2012 Actual	2013 Actual	2014 Bridge	2015 Test
EDA	$0.11M	$0.11M	$0.14M	$0.13M	$0.13M
CEA	$0.07M	$0.07M	$0.08M	$0.08M	$0.08M

b) The Mearie Group provides Life Insurance benefits to Toronto Hydro employees. A summary of annual amounts paid to the Mearie Group is provided below:

	2011 Actual	2012 Actual	2013 Actual	2014 Bridge	2015 Test
Mearie	$2.9M	$3.1M	$3.0M	$2.0M	$2.0M

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All Toronto Hydro's property insurance brokerage services are currently provided by Willis Canada Inc. ("Willis"), whose contract has been awarded following an RFP process. Willis provides and prepares insurance renewal submissions and negotiates the terms of subsequent coverage agreements on behalf of the utility.

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INTERROGATORY 42:

Reference(s): Exhibit 4A, Tab 2, Schedule 6, page 2

a) Table 2 shows "Damage prevention" rising from $1.6 million in 2013 to a forecast of $4.7 million in 2015. The accompanying explanations (beginning on page 7) describes how the sub-costs for this category (cable locates) have increased from 2011 to 2013. However, the overall costs for this category actually decreased from 2011 to 2013. That is, the reasons provided do not appear to support the increase from 2013 to 2015. Please explain why these costs are more than doubling between 2013 and 2014.

b) Please provide the actual amounts spent on Damage Prevention as of the end of 3rd quarter of 2014.

RESPONSE:

a) As described in Exhibit 4A, Tab 2, Schedule 6, pages 8-9, Toronto Hydro realized significant cost efficiencies from 2011 to 2013 through initiatives such as contracting out all locates and the execution of Alternate Locate Agreements. Although Toronto Hydro is continuously looking for efficiencies, it does not expect further cost efficiencies in 2014 and 2015 in the Damage Prevention segment. Due to this factor, and for reasons that include the following information, Damage Prevention costs are expected to more than double between 2013 (i.e., $1.6 million actual expenditure) and 2015 (i.e., $4.7 million forecast):

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i) $1.7 million is attributed to locate requests related to assets that were formerly part of the City of Toronto's street lighting system (Exhibit 4A, Tab 2, Schedule 6, page 12);

ii) $0.3 million is attributed to a one-time credit that was provided by a third party locate provider in 2013 that is not expected to re-occur (Exhibit 4A, Tab 2, Schedule 6, page 11);

iii) $0.5 million is attributed to higher levels of locate requests than historically seen due to increased awareness of Ontario One Call (Exhibit 4 A, Tab 2, Schedule 6, page 12); and

iv) $0.3 million for incremental overhead line cover oversight and damage prevention claim investigations.

b) Toronto Hydro is unable to provide actual amounts spent on Damage Prevention as of the end of 3rd quarter of 2014 as finalized amounts were not available at the time that this interrogatory response was prepared. As of the end of the 2nd quarter, the actual amounts totalled $1.3 million.

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INTERROGATORY 43:

Reference(s): Exhibit 4A, Tab 2, Schedule 8, p .9

a) Table 3 shows both the total capital expenditures for 2011 through 2015 and the Preventative and Predictive Maintenance OM&A budgets for the same period. The accompanying evidence appears draw a relationship between the increase in the OM&A budgets and the accompanying increase in the capital budgets. Is THESL suggesting there a positive correlation – that is an increase in capital budgets is associated with an increase in OM&A (in this or any other OM&A category)?

b) If yes please explain why. Specifically, please address the question as to why renewal of assets does not lead to lower preventative OM&A (and other) budgets. Please also explain what capital related activities directly related to capital expenditures cannot be capitalized.

c) Table 3 appears to show that OM&A is in fact inversely related to capital budgets. That is, it shows an increase in preventative maintenance in 2012 when the capital budget declined significantly. Please comment.

d) Please provide Table 3 so as to show the same categories for 2008 through 2011.

RESPONSE:

a) The intent of Table 3 referenced in the Interrogatory is solely to show that the OM&A expenditures of the Work Execution Management and Support program, are directionally aligned to the size of the combined Capital and Maintenance expenditures, while the ratio remains consistent in the low 1% range. Toronto Hydro

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did not intend to convey any information regarding the correlation between capital and maintenance programs.

b) As stated above, the table referenced in sub (a) was not intended to suggest the existence of any correlation between capital and preventative and predictive maintenance programs. For further discussion regarding the relationship between Capital and OM&A spending, please refer to the response to Interrogatory 2B-EP-24.

c) Exhibit 4A, Tab 2, Schedule 1, page 3 explains the increases and decreases in the Preventative & Predictive Maintenance Program during the historical period. For example, the increases in 2012 over 2011 are attributed to increases in the Overhead Switch Maintenance, Below-Grade Equipment Maintenance, and Customer Location Maintenance segments. Work that occurs in these segments is not directly related to a general reduction in the capital program in a given year.

d) The table below provides the requested capital and maintenance expenditures in 2008-2011. Toronto Hydro is unable to provide the requested historical expenditures for the Work Execution Management and Support program for the referenced period due to insufficient granularity in the historical data.

	2008 Actual	2009 Actual	2010 Actual	2011 Actual
Total Capital Expenditures	$205.7M	$241.7M	$381.1M	$445.5M
Preventative & Predictive Maintenance	$9.9M	$11.4M	$14.2M	$13.7M

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INTERROGATORY 44:

Reference(s): **Exhibit 4A, Tab 2, Schedule 13, page 3**

a) Please provide an estimate of the increase/decrease in billing, collection and customer care costs if THESL were to move all customers to monthly billing.
b) Please explain what offset in working capital might be expected.
c) If THESL has not previously undertaken any study of this issue please provide the best estimate and a general or directional explanation.

RESPONSE:

a) Costs are projected to increase incrementally over the current operating budget by a total amount of approximately $6.1 million. This can be further categorized as an increase in the costs of Billing of $4.3 million, costs of Collections of $0.9 million and costs of Customer Care of $0.9 million. In addition, one-time costs to facilitate the transition are forecasted to be $3.0 million in capital costs and $2.2 million in operating expenditures.

b) Toronto Hydro estimates the offset in working capital in the amount of approximately $1.9 million.

c) Please see the response to Interrogatory 4A-CCC-34.

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INTERROGATORY 45:

Reference(s): Exhibit 4A, Tab 2, Schedule 13, page 27

a) Please explain the rationale for "Communications and Public Affairs" as a ratepayer as opposed to shareholder cost.

RESPONSE:

The Communications and Public Affairs costs have historically been in Toronto Hydro's and other utilities rate recoverable costs, and should continue to be recovered through rates. The Communications and Public affairs segment performs a number of crucial functions that allow the utility to:

- Keep customers informed and engaged (directly and through mass media) on the scope of planned and ongoing work performed by the utility, changes to customer bills stemming from OEB and other decisions, range of services offered by the utility, and important information pertaining to service outages and estimated restoration times.
- Address the emerging and ongoing concerns of customer groups and other stakeholders whose plans and/or interests may be affected by Toronto Hydro's activities.
- Maintain a productive relationship with the City of Toronto on matters affecting both parties' planned and ongoing operating activities.
- Provide assistance to Toronto Hydro's most vulnerable customers.

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The above-noted examples and other activities performed under the Communications and Public Affairs reflect the "Customer Service" pillar of Toronto Hydro's Corporate Strategy (see Exhibit 1C, Tab 3, Schedule 1) and are in alignment with the OEB's Customer Focus outcome under the renewed Regulatory Framework for Electricity (RRFE). Based on the above considerations, Toronto Hydro submits that the expenditures associated with this segment continue to be an appropriate ratepayer cost.

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INTERROGATORY 46:

Reference(s): **Exhibit 4A, Tab 2, Schedule 17, Appendix A**
Exhibit 4A, Tab 2, Schedule 18, pages 1-4

a) Please reconcile the one-time regulatory costs of $3,543,366 shown in Appendix 2-M with $3,193,366 in one-time costs related to the CIR application (shown in the table below)

b) Please provide a breakdown on the legal fees of $1,726,047 by type of activity (e.g., hearing, pre-application, etc.).

c) How many practicing lawyers does THESL currently employ?

RESPONSE:

a) Amounts shown for 2015 on lines 5 and 6 of the top table in Appendix 2-M include forecast legal and consulting amounts which are not included as direct one-time CIR related costs in the lower table.

b) Please refer to the table below for the requested breakdown:

Type of Activity	Cost
Main Application	
Pre-Application	$454,000
Post-Filing + Oral Hearing	$620,000
Post Hearing	$153,000
ICM True-UP	
Pre-Application	$160,000
Post-Filing + Oral Hearing	$269,000
Post-Hearing	$70,000
Total	$1,726,000

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c) Toronto Hydro currently employs two practicing regulatory lawyers.

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INTERROGATORY 47:

Reference(s): Exhibit 4A, Tab 1, Schedule 1, page 4

a) Please revise/update Table 1: (Historical,Bridge, Test Year OM&A by Program) to show in new columns

- 2014 3rd quarter actuals;
- remaining quarter forecast spend.
- 2013 3rd quarter results
- any flow through update to 2015 OM&A costs

RESPONSE:

a) As noted in Exhibit 4A, Tab 1, Schedule 1, page 2, adopting a program-based approach as per the OEB's July 2013 update of Chapter 2 Filing Requirements entails a transition period for the utility. Toronto Hydro notes that its work in developing a meaningful program/Segment OM&A presentation involved a significant amount of assumptions and complex analytic work (discussed further in the response to interrogatory 4A-OEBStaff-43), given that Toronto Hydro's internal OM&A tracking procedures do not fully lend themselves to the approach contemplated by the OEB.

It is for this reason that Toronto Hydro's quarterly actuals (2013 and 2014) are not readily available in the requested Table 1 format. The table below represents a best-effort basis to produce the requested information using Toronto Hydro's departmental expenditure structure. For further details on the mapping of departments to programs, please refer to the response to Interrogatory 4A-SIA-31 part c. Moreover, Toronto

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Hydro is not currently in a position to provide Q3 results for 2013, as audited figures are not presently available. Accordingly, Toronto Hydro is providing 2014 YTD results up to the end of Q2. To enable consistent past year comparison, 2013 Q2 data are provided instead of the requested Q3 results, along with the year-end 2014 Bridge forecast.

Table 1 – 2Q OM&A by Division ($M)

Toronto Hydro Department	2013 2nd Quarter Actuals	2014 2nd Quarter Actuals	2014 Bridge
Engineering & Construction	17.4	17.2	35.1
Electric Operations	32.7	33.8	63.0
Fleet and Equipment Services	4.4	5.5	8.4
Facilities Management	12.4	14.2	27.2
Supply Chain Services	4.5	5.4	10.3
Customer Care	19.2	20.9	42.2
Human Resources and Safety	8.0	7.8	15.3
Finance	6.6	8.6	17.0
Information Technology	16.0	15.6	33.4
Rates and Regulatory Affairs	4.0	3.5	6.4
Legal Services	4.2	3.0	5.3
Charitable Donations (LEAP)	0.3	0.3	0.7
Common Costs and Adjustments	0.0	1.0	2.3
Allocations and Recoveries	(11.6)	(11.5)	(19.9)
Total OM&A	**118.2**	**125.4**	**246.6**

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NOTES:

The table above uses assumptions to arrive at the 3Q 2013 and 3Q 2014 OM&A. The OEB does not require that Toronto Hydro publish quarterly actuals, annual RRR reconciliations are provided as per the guidelines. Therefore, this quarterly view is purely prepared on a best-effort basis using assumptions to derive OM&A which is different than the published Financial Statement OPEX reported externally. Further, the format above is based on Toronto Hydro's internal departmental view, not the program view as this view is again not available by quarter at this time.

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INTERROGATORY 48:

Reference(s): **Exhibit 4A, Tab 4, Schedule 2, Appendix 2-K**
Exhibit 4A, Tab 4, Schedule 5, page 1

a) Please update Appendix 2-K and Table 1 (Overtime and Incentive Pay) to show separately: Union and non-union, Management and Executive (VP and above).

RESPONSE:

Please refer to Appendix A to this response.

	2011 Actuals	2012 Actuals	2013 Actuals	2014 BRIDGE	2015 TEST
Number of Employees (FTEs including Part-Time)[1]					
Executive	9.2	7.4	8.0	6.3	6.0
Management (excluding Executive)	52.7	45.6	47.2	48.2	49.0
Non-Management (Non-Union)	462.4	442.9	458.5	509.3	533.5
Non-Management (Union)	1,212.8	1,104.9	1,013.7	972.8	975.0
Total	1,737.0	1,600.8	1,527.4	1,536.6	1,563.5
Total Salary and Wages (including overtime and incentive pay)					
Executive	$ 2,840,668	$ 2,554,144	$ 2,661,984	$ 2,469,509	$ 2,424,089
Management (excluding Executive)	$ 8,663,257	$ 7,930,713	$ 8,254,968	$ 8,888,300	$ 9,252,273
Non-Management (Non-Union)	$ 48,004,982	$ 47,222,946	$ 48,661,644	$ 54,545,454	$ 58,152,615
Non-Management (Union)	$ 117,596,782	$ 102,500,089	$ 99,308,906	$ 97,986,475	$ 99,602,175
Total	$ 177,105,689	$ 160,207,891	$ 158,887,502	$ 163,889,738	$ 169,431,152
Total Benefits (Current + Accrued)					
Executive	$ 972,941	$ 719,048	$ 752,393	$ 700,663	$ 651,611
Management (excluding Executive)	$ 2,727,764	$ 2,488,349	$ 2,744,978	$ 2,921,727	$ 2,934,914
Non-Management (Non-Union)	$ 15,372,984	$ 15,506,703	$ 17,144,667	$ 18,400,258	$ 18,485,032
Non-Management (Union)	$ 38,398,376	$ 36,651,732	$ 37,288,451	$ 34,651,697	$ 33,794,760
Total	$ 57,472,066	$ 55,365,832	$ 57,930,489	$ 56,674,344	$ 55,866,316
Total Compensation (Salary, Wages, & Benefits)					
Executive	$ 3,813,609	$ 3,273,192	$ 3,414,377	$ 3,170,172	$ 3,075,700
Management (excluding Executive)	$ 11,391,021	$ 10,419,062	$ 10,999,947	$ 11,810,027	$ 12,187,187
Non-Management (Non-Union)	$ 63,377,966	$ 62,729,649	$ 65,806,311	$ 72,945,712	$ 76,637,647
Non-Management (Union)	$ 155,995,158	$ 139,151,820	$ 136,597,357	$ 132,638,172	$ 133,396,935
Total	$ 234,577,755	$ 215,573,723	$ 216,817,992	$ 220,564,082	$ 225,297,468

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INTERROGATORY 49:

Reference(s): **Exhibit 5**
Exhibit 1C, Tab 4, Schedule 7, Appendix A

a) Please provide the adjusted funds from operations (AFFO)-to-debt ratios for 2012, 2013 and the forecast for 2014.

b) Under the 5 year plan please provide THESL's projection for the AFFO/debt ratio for each year of the plan. Please show your assumptions.

RESPONSE:

a) Adjusted funds from operations (AFFO)-to-debt ratios are as follows: 15.3% (2012), 15.4% (2013), and 12.3% (2014 forecast). In calculating these ratios, Toronto Hydro made standard adjustments to financial statement data that management believes better reflect the underlying economics of certain transactions. See supporting schedules for adjustments made and detailed calculations provided as Appendix A to this Schedule.

b) The projected AFFO/debt ratio for 2015 is 12.3%.

Toronto Hydro has not calculated the AFFO/debt ratio for 2016-2019 as detailed plans for those years are not available.

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As noted in the response to part a), Toronto Hydro made certain standard adjustments to financial statement data in calculating these ratios. See supporting schedules for adjustments made and detailed calculations provided as Appendix A to this Schedule.

Calculation of FFO for THESL Regulated Operations

Year ended December 31 *in thousands of Canadian dollars*	**Historical 2012 $**	**Historical 2013 $**	**Bridge 2014 $**	**Test 2015 $**
Revenue	2,834,404	3,181,497	3,295,530	3,428,278
Cost of purchased power	(2,275,209)	(2,567,512)	(2,691,734)	(2,751,934)
Operating expenses	(231,949)	(258,416)	(256,627)	(278,084)
EBITDA	**327,246**	**355,569**	**347,169**	**398,260**
Interest expense:				
Interest Income	(734)	(2,065)	(1,360)	(1,010)
Interest expense	76,672	70,796	66,502	79,551
Net financing charges	**75,938**	**68,731**	**65,142**	**78,541**
Current tax	**6,011**	**5,265**	**16,644**	**13,708**
FFO - Regulated Operations	**245,297**	**281,572**	**265,383**	**306,011**
Operating Leases	15,055	5,990	5,128	5,291
Post-retirement benefits	(1,088)	(3,244)	(4,441)	(4,561)
Capitalized Interest	(994)	(1,306)	(2,651)	(2,576)
Asset Retirement Obligations	65	(114)	-	-
Adjusted FFO - Regulated Operations	**258,335**	**282,898**	**263,418**	**304,165**
Notes Payable	1,470,249	1,493,199	1,692,507	1,931,505
Other Financing	-	150,000	263,344	338,180
Total Debt	1,470,249	1,643,199	1,955,851	2,269,685
Post-retirement benefits	253,890	238,792	243,040	251,561
Tax adjustment	(67,281)	(63,280)	(64,406)	(66,664)
Net Post-retirement benefits	186,609	175,512	178,634	184,897
Operating Leases	29,435	17,515	12,566	7,260
Asset Retirement Obligations	3,678	4,592	1,088	1,056
Adjusted Debt	**1,689,971**	**1,840,818**	**2,148,140**	**2,462,898**
FFO/Debt Ratio	16.7%	17.1%	13.6%	13.5%
A-FFO/Adjusted Debt Ratio	15.3%	15.4%	12.3%	12.3%

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INTERROGATORY 50:

Reference(s): Exhibit 7, Tab 1, Schedule 1, page2

a) What is the basic service allowance that is funded through rates (per lines 15-17)? Also, please indicate where in THESL's Conditions of Service the basic service allowance is set out and established as a common standard for all customer classes (except Street Lighting and USL).

b) The Application states that the cost of "services" is directly collected from the USL and Street Lighting classes. Please confirm that this "direct collection" is by way of a customer capital contribution as opposed to via a direct allocation in the Cost Allocation model.

RESPONSE:

a) Please see Exhibit 2B, Section E5.2, page 12. Please also refer to Table 5 (pages 89 to 95) of Toronto Hydro's Condition of Service, provided in response to1A-BOMA-9.

b) Confirmed, the cost of "services" for the USL and Street Lighting rate classes is collected through a capital contribution.

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INTERROGATORY 51:

Reference(s): Exhibit 7, Tab 1, Schedule 3, pp. 2-5

a) Please confirm the date of the study for Toronto Hydro referenced in Table 1.
b) Please confirm that the Toronto Hydro referenced in Table 1 is pre-amalgamation.
c) What was the kW/customer capability for the Toronto Hydro minimum system referenced in Table 1?
d) Why has Toronto Hydro not undertaken to complete (either on its own or with the aid of an appropriate consultant) a new THESL-specific minimum system study?
e) Please confirm that at page 3, line 5 the text should read "greater than 60 customers per kilometer".
f) What is the impact on the status quo revenue to cost ratios of using the minimum system definition as proposed by THESL as opposed to using the OEB Cost Allocation model values? As part of the response, please provide a copy of the CA model with the OEB prescribed value for density.

RESPONSE:

a) The study for Toronto Hydro referenced in Table 1 was completed in 1999.

b) The study was completed for the post amalgamation Toronto Hydro.

c) The minimum load used was a 100-Watt light bulb.

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d) The undertaking of a minimum system study would likely be a significant expense for Toronto Hydro. It is clear that Toronto Hydro's density is well above the OEB model's default threshold for high density, and the since the current thresholds were based on evidence provided as part of the initial Cost Allocation consultation, Toronto Hydro has used the most relevant information contained in that study as a value for the density factors.

e) Confirmed, the text should read "greater than 60 customers per kilometer".

f) The following table compares the revenue to cost ratios using the OEB's default high-density input compared to the ratios as filed by Toronto Hydro. An electronic version of the CA model is being provided as IR_7_VECC_51_CAModel_20141105.xlsx.

	Residential	Competitive Sector Multi-Unit Residential	GS<50	GS - 50 to 999	GS - 1000 to 4999	Large Use >5MV	Street Light	Unmetered Scattered Load
Rev to Cost Ratio (OEB value for density)	89%	96%	95%	127%	108%	100%	90%	81%
Rev to Cost Ratio (THESL value for density)	93%	107%	90%	118%	101%	95%	105%	90%

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INTERROGATORY 52:

Reference(s): Exhibit 7, Tab 1, Schedule 3, p. 5

a) Please provide a schedule that itemizes each of directions from the OEB's EB-2010-0142 Decision that THESL considered (per lines 8-10) and, for each, describe why no revisions to its cost allocation model were required.

b) If not addressed in part (a), please indicate how THESL has addressed the following direction from the OEB's EB-2010-0142 Decision (page 13):

> The Board recognizes the submission by the SSMWG that the composite allocators in the model should be adjusted to ensure that the applicable costs are allocated to the Quadlogic class appropriately. In particular, this would mean that the composite allocators based on Net Fixed Assets (NFA and NFA ECC) would need to be increased to the Quadlogic class if its meter costs were to be to directly allocated using the Board's current model. Similarly, the composite allocators based on operating and maintenance costs (O&M and OM&A) would need to be increased if there were direct allocation of certain other costs elsewhere in this Decision.
>
> While recognizing that the lump sum adjustment of $400,000 proposed by the SSMWG is correct directionally, the Board finds that changes to the cost allocation model would be required to yield a reliable adjustment to the composite allocators and the Board does not consider it appropriate to make such changes in this proceeding. <u>The Board would consider it appropriate for changes of this kind to be considered during the next review of the cost allocation model</u> (emphasis added). Once the necessary changes to the cost allocation model have been made, the

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approach proposed by the SSMWG can be considered in a subsequent proceeding. While a new rate class is being created in this proceeding, the Board is of the view that the development of this new rate class will be an iterative process that is likely to span more than one proceeding. The Board accordingly directs that THESL will not alter the cost allocation model's calculation of the composite allocators for the purpose of this proceeding.

c) If not addressed in part (a), please indicate how THESL has addressed the following direction from the OEB's EB-2010-0142 Decision (page 15)

The Board notes that THESL agreed that the appropriate weighting factor should be 0.064 and also notes that no empirically based alternatives were presented. The Board therefore finds that THESL should use a service drop factor of 0.064 for 2012, as proposed by VECC and the associated logic to derive this allocation factor when the cost allocation study is next updated.

Specifically, the Board directs THESL to derive the service drop allocation factor when the cost allocation study is next updated by taking the weighting factor of 10 used for services for the GS 50- 599 and GS 1,000-4,999 classes divided by the average number of Quadlogic customers per building. (emphasis added)

d) If not addressed in part (a), please indicate how THESL has addressed the following direction from the OEB's EB-2010-0142 Decision (page 18)

The Board expects that THESL will incorporate the distinction between the secondary and primary systems in future cost allocation studies, and that it will

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include the appropriate proportions within each class where some customers are served from the secondary system and the rest are served from the primary system.

RESPONSE:

a) The full paragraph in Toronto Hydro's evidence which is referenced by this interrogatory reads as follows:

> In its EB-2010-0142 decision with respect to the new CSMUR class, the OEB required the utility to review each of the assumptions set out in the decision and note any that may require revision at the time of its next Cost of Service filing. Toronto Hydro has reviewed the directions from that decision, and has not determined a need for any revisions. Allocations to the CSMUR class have been based on the same assumptions as set out in the OEB's decision

That paragraph references the OEB's Decision in EB-2010-0142 (page 29) where the OEB stated:

> The Board therefore directs THESL to review each of the assumptions set out in the Decision and Order when its cost allocation study is refreshed for it next COS application. THESL is directed to note any assumptions that would require revisions and provide explanations for any such revisions at that time.

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Toronto Hydro's evidence clearly states that Toronto Hydro has reviewed the current OEB's CAM and has not seen any need to diverge from the model to properly incorporate the findings on the CSMUR class for the 2015 filing.

b) Toronto Hydro's interpretation of the referenced finding was that the OEB intended to review the Cost Allocation model and its logic as part of a generic review of the model. To Toronto Hydro's knowledge, this particular component of the model has not been altered by the OEB, and Toronto Hydro (as well as other LDCs) continues to rely on the current version.

c) For this filing, Toronto Hydro has used the same methodology as directed by the OEB to derive the CSMUR service allocations.

d) A more complete version of the OEB findings in the EB-2010-0142 Decision is as follows (page 18):

> The Board is of the view that in the absence of a move to more detailed based asset-based cost allocation, which the Board does not presently plan to adopt; it would not be possible to appropriately allocate such costs.
>
> The Board directs that the secondary load of the Quadlogic class will be the same as the primary load.
>
> The Board expects that THESL will incorporate the distinction between the secondary and primary systems in future cost allocation

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studies, and that it will include the appropriate proportions within each class where some customers are served from the secondary system and the rest are served from the primary system.

Toronto Hydro identified three out of 215 buildings in the CSMUR class that served from the secondary system. The 123 units in these three buildings make up 0.2% of the 56,966 units in the CSMUR rate classes. Since this figure represents an insignificant proportion of the CSMUR units served, Toronto Hydro maintained the OEB's direction to allocate the secondary load the same as the primary load in the 2015 COS model.

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INTERROGATORY 53:

Reference(s): **Exhibit 7**
Cost Allocation Model, Sheet I9 – Direct Allocation

a) Please explain how the costs to be directly allocated to Street Light and USL for each of the following USOA accounts were established:
   i. 1830
   ii. 1835
   iii. 1840
   iv. 1845
   v. 1850
   vi. 1860

b) Given there are asset costs for Poles and Conductors (#1830 & #1835), Line Transformers (#1850) and Meters (#1860) directly allocated to Street Light and USL, why are there no directly allocated costs to these classes for the following associated expense accounts:
   i. 5020
   ii. 5025
   iii. 5035
   iv. 5040
   v. 5045
   vi. 5055
   vii. 5065
   viii. 5125
   ix. 5130

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x. 5135
xi. 5150
xii. 5160
xiii. 5175

c) Given there is no direct allocation from the “expenses” accounts noted in part (b) to Street Lighting and USL, are the directly allocated asset costs for Street Light and USL included in the allocation bases for these accounts where applicable?

d) Please explain basis for the costs/credits directly allocated to Street Light and USL for accounts #5085 and #5096.

e) Are the asset costs of the actual Street Light devices included in THESL’s costs? If so, in which USOA account are they recorded and directly allocated?

f) How were the Meter and Meter Reading costs that are directly allocated to the CSMUR class established?

g) How were the asset-related costs that were directly allocated to the GS>50-999; GS1,000-4999 and LU classes for accounts #1840 and #1845 determined?

h) Why are there no costs from the expense accounts #5145 and #5150 directly allocated to the GS>50-999; GS1,000-4999 and LU classes – given there are associated asset costs that are directly allocated?

i) Given there is no direct allocation from these two accounts (i.e., #5145 and #5150) for these customer classes, are the directly allocated asset costs for GS>50-999; GS1,000-4999 and LU classes included in the allocation base for accounts #1840 and #1845 where applicable?

j) Do the assets that are directly allocated attract a share of the amortization associated with General Plant to customer classes involved? If so, please indicate how this accomplished in the Cost Allocation model.

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RESPONSE:

a) Costs directly allocated for the noted accounts were established based on Toronto Hydro's records for these assets.

b) Expense items for Streetlighting were rolled into accounts 5085, 5096 and 5145 for direct allocation.

c) Please see response to part (b).

d) Expense costs directly related to the incremental Street Light assets were rolled into accounts 5085 and 5096 as noted in the response to part (b).

Upon further review, Toronto Hydro has identified an incorrect calculation for the amounts directly assigned in account 5085. The correct amount should be $180,242. The changes in the revenue to cost ratios as a result of this correction are shown in the table below:

	Residential	Competitive Sector Multi-Unit Residential	GS<50	GS - 50 to 999	GS - 1000 to 4999	Large Use >5MV	Street Light	Unmetered Scattered Load
Rev TO Cost - Prefile	93.4%	106.7%	89.9%	117.6%	100.9%	95.2%	105.5%	89.8%
Rev TO Cost-Revised	93.8%	106.9%	90.4%	118.3%	101.4%	95.6%	92.2%	86.5%

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Although, the Streetlighting revenue to cost ratio has changed, it does not change the proposed 2015 Streetlighting rates since Toronto Hydro has proposed to hold these rates constant at 2014 levels. Changes to the revenue to cost ratios for the remaining classes are minor.

e) No. In accordance with the OEB's ruling, the Street Light "devices" are not to be included in Toronto Hydro's costs.

f) Rate class meter capital costs for the CSMUR class are calculated as the number of meters in the class multiplied by the rate class cost per meter.

Meter reading costs for the CSMUR class are calculated as the meter reading cost per meter multiplied by the number of meters multiplied by the number of reads. Upon further review, Toronto Hydro discovered an incorrect calculation of this amount. The correction results in a reduction in directly allocated CSMUR meter reading costs from $1,115,520 to $659,338 (a difference of $456K) which would increase the CSMUR revenue to cost ratio from 106.7% to 110.2%.

g) The directly assigned asset related costs to the GS>50-999, GS1,000-4999 and LU classes for accounts 1840 and 1845 are based on the estimated replacement costs for the dedicated feeders serving these customers. The ratio of these costs to the replacement cost of all feeders is then applied to the 2015 amounts in accounts 1840 and 1845 to establish the direct assignment values.

h) All costs associated with underground maintenance are grouped into account 5150.

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Upon review, Toronto Hydro has identified amounts, totalling $253,274, for account 5150 which should be directly allocated to the GS > 50-999 kW, GS 1,000-4999 kW and LU rate classes. Correcting for this amount has an immaterial impact on the revenue to cost ratios.

i) Please see response to part (h) above.

j) Based on Toronto Hydro's understanding of the CAM logic, it does not appear that the assets that are directly allocated attract a proportional share of the amortization associated with General Plant.

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INTERROGATORY 54:

Reference(s): **Exhibit 7, Tab 1, Schedule 2, page 7 (corrected)**
Cost Allocation Model, Tab I6.2-Customer Data

a) Please explain the source of the 1.8:1 ratio of devices to connections used in the Cost Allocation model.

b) Please explain how this value was established and whether/how it has changed from previous Cost Allocation results filed by THESL.

RESPONSE:

a) The 1.8:1 ratio of devices to connections is based on information provided as part of the initial Cost Allocation filing in 2006 (EB-2006-0247). Data samples on devices and relays across Toronto Hydro's operating areas were used to derive the 1.8:1 ratio for the system as a whole. The ratio takes into account that some streetlight devices are connected in a daisy chain configuration and others are directly connected. This value has been used in each of Toronto Hydro's cost of service based rate filings since 2008.

b) Please see response to part (a).

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INTERROGATORY 55:

Reference(s): **Exhibit 7, Tab 2, Schedule 1, pp. 2-3**

a) Please explain how the revenue deficiency from reducing the CSMUR R/C ratio to 100% and holding the Street Light rates at 2014 levels was assigned to the remaining customer classes in order to yield the results set out in parts (B) and (C).

b) Please provide an alternative version of parts (B) and (C) where the R/C ratio for Street Light is maintained at 104%.

RESPONSE:

a) The allocator for redistribution of revenue deficiency is the revenue shortfall from the rate classes that are below a 100% Revenue to Cost Ratio in the OEB's Cost Allocation Model.

	Revenue Shortfall from COS Model	% of Total Shortfall
RESIDENTIAL	$(19,911,971)	62%
GS < 50 kW	(10,408,329)	32%
LARGE USER	(1,537,315)	5%
SMALL SCATTER LOAD	(433,423)	1%
Total	**(32,291,040)**	**100%**

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The revenue deficiency from maintaining the CSMUR class at 100% and holding Street lighting rates constant – an amount of $4.1M – is redistributed based on the class percentages derived from the above table.

	Rev Recovery
RESIDENTIAL	$2,520,965
GS < 50 kW	$1,317,751
LARGE USER	$194,633
SMALL SCATTER LOAD	$54,874
	$4,088,222

b) An alternative version of Tables (B) and (C), where the revenue to cost ratio for the Street Lighting class is maintained at 104%, is attached as Appendix A to this response.

OEB 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	$ 256,839,427	46.86%	$ 300,574,607	42.50%
GS < 50 kW	$ 74,280,097	13.55%	$ 103,048,743	14.57%
GS 50-999 kW	$ 136,457,707	24.90%	$ 165,834,091	23.45%
GS 1000-4999 kW	$ 38,493,073	7.02%	$ 58,526,202	8.27%
Large User	$ 20,035,803	3.66%	$ 32,008,512	4.53%
Street Lighting	$ 17,331,487	3.16%	$ 22,419,560	3.17%
Unmetered Scattered Load (USL)	$ 4,627,832	0.84%	$ 4,253,100	0.60%
Competitive Sector Multi-Unit Residential (New Rate Class in 2013)		0.00%	$ 20,618,388	2.92%
		0.00%		0.00%
Embedded distributor class		0.00%		0.00%
Total	$ 548,065,426	100.00%	$ 707,283,203	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 Load Forecast (LF) X current	Column 7C L.F. X current approved rates X	Column 7D LF X proposed rates	Column 7E Miscellaneous Revenue
Residential	$ 214,465,673	$ 255,976,588	$ 262,655,243	$ 19,071,920
GS < 50 kW	$ 69,430,402	$ 82,869,007	$ 85,242,953	$ 7,953,908
GS 50-999 kW	$ 158,177,191	$ 188,793,186	$ 188,618,199	$ 6,383,816
GS 1000-4999 kW	$ 52,894,930	$ 63,133,011	$ 58,138,327	$ 897,088
Large User	$ 27,857,584	$ 33,249,560	$ 30,233,172	$ 320,212
Street Lighting	$ 12,284,580	$ 14,662,323	$ 14,646,487	$ 8,660,640
Unmetered Scattered Load (USL)	$ 2,673,863	$ 3,191,403	$ 3,284,569	$ 558,279
Competitive Sector Multi-Unit Residential (New Rate	$ 17,001,339	$ 20,292,034	$ 19,348,161	$ 1,270,227
Embedded distributor class				
Total	$ 554,785,562	$ 662,167,112	$ 662,167,112	$ 45,116,090

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 Most Recent Year: 2011	Status Quo Ratios (7C + 7E) / (7A)	Proposed Ratios (7D + 7E) / (7A)	Policy Range
	%	%	%	%
Residential	89%	92	94	85 - 115
GS < 50 kW	97%	88	90	80 - 120
GS 50-999 kW	118%	118	118	80 - 120
GS 1000-4999 kW	124%	109	101	80 - 120
Large User	116%	105	95	85 - 115
Street Lighting	71%	104	104	70 - 120
Unmetered Scattered Load (USL)	82%	88	90	80 - 120
Competitive Sector Multi-Unit Residential (New Rate C		105	100	85-115
Embedded distributor class				

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 whose most recent rebasing year is 2006, 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

D) Proposed Revenue-to-Cost Ratios

Class	Proposed Revenue-to-Cost Ratios			Policy Range
	0	1	2	
	%	%	%	%
Residential	94			85 - 115
GS < 50 kW	90			80 - 120
GS 50-999 kW	118			80 - 120
GS 1000-4999 kW	101			80 - 120
Large User	95			85 - 115
Street Lighting	104			70 - 120
Sentinel Lighting				80 - 120
Unmetered Scattered Load (USL)	90			80 - 120
Competitive Sector Multi-Unit Residential (New Rate	100			85-115
				0
Embedded distributor class				

Note

1 The applicant should complete Table D if it is applying for approval of a revenue to cost ratio in 2014 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 2014. In 2015 Table (d), enter the planned ratios for the classes that will be 'Change' and 'No Change' in 2014 (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'.

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INTERROGATORY 56:

Reference(s): Exhibit 8, Tab 1, Schedule 1, pages 1 and 5

a) Please provide a schedule that sets out the calculation of the current fixed variable split for each customer class (i.e., based on 2014 rates and the 2015 load forecast).

RESPONSE:

a) Please see Exhibit 8, Tab 1, Schedule 2, page 1.

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INTERROGATORY 57:

Reference(s): **Exhibit 8, Tab 1, Schedule 1, p. 6**

a) Please confirm that the CA Model values set out in Table 2 are "monthly values" whereas the THESL current and proposed rates are based on "30 days".

b) If part (a) is confirmed, please restate Table 2 with the CA model values converted to their 30 day equivalent.

RESPONSE:

a) Confirmed. The CA Model ("CAM") values in Table 2 are "monthly values" whereas Toronto Hydro's current and proposed rates are based on "30 days".

b) The table below provides an update to Table 2 with CAM values converted to their 30 days equivalent.

	Residential	CSMUR	GS<50 kW	GS 50-999 kW	GS 1000-4999 kW	Large Use	Streetlighting	USL
CA Model Floor	4.14	3.35	13.48	42.21	78.97	-38.40	0.24	9.41
CA Model Ceiling	19.14	9.24	31.14	84.39	238.25	203.48	10.60	19.15
Current (2014)	18.63	17.35	24.8	36.29	700.68	3,071.47	1.32	4.94
Proposed (2015)	22.94	19.74	30.71	44.1	839.98	3,701.04	1.32	6.13

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INTERROGATORY 58:

Reference(s): **Exhibit 8, Tab 1, Schedule 1, pp. 4-5**
City of Hamilton Motions Re: Streetlighting Rates as filed in EB-2013-0416 and EB-2014-0002

a) Please comment on the similarities/differences between THESL's proposal regarding Streetlight rates and the recent requests by the City of Hamilton as filed in its motions in the Hydro One Networks' EB-2013-0416) and Horizon's (EB-2014-0002) 2015-2019 rate application proceedings.

b) Given the Board's disposition of the City of Hamilton motions in these proceedings, does THESL consider its proposal to "freeze" Streetlighting rates subject to the completion of the Board's EB-2012-0383 process to be still be appropriate? If so, why?

RESPONSE:

a) and b)

Toronto Hydro proposes a "final" rate for 2015 for the Streetlighting class, and requests that this final rate be the same as the current 2014 rate for the Streetlighting class. As noted in Exhibit 8, Tab 1, Schedule 1, pages 5, with 2015 rates at the same level as 2014, the Streetlighting class revenue to cost ratio is well within the OEB's guideline range for this class. Toronto Hydro proposes that if any directives arising from the OEB's consultation on the device to connection issue occur before the conclusion of the current hearing, than those directives would be incorporated in determining final rates for this class. If the conclusion of that consultation occurs

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after the conclusion of Toronto Hydro's current application, the proposed rates would be considered final for 2015.

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INTERROGATORY 59:

Reference(s): **Exhibit 8, Tab 1, Schedule 1, p. 7**
Exhibit 8, Tab 3, Schedule 3, p. 7

a) Schedule 1 states (lines 13-14) that the Standby rate is a three-part charge that consists of a monthly administration charge, a fixed monthly charge and a volumetric rate. However, Schedule 3 only includes two charges: a monthly service charge and a volumetric rate. Please reconcile.

b) If a customer has a 1,500 kW generator, normally has a monthly peak load of 500 kW on the THESL system when the generator is operating (i.e., total plant peak load is 2,000 kW) and its average monthly peak load on THESL's system (taking into account standby requirements) is 900 kW please address the following:

   i) To which customer class would the customer be assigned (GS 50-999 or GS1,000-4,999)?
   ii) What would be the contracted level of standby power?
   iii) How would THESL determine when Standby power was required/utilized?
   iv) What Standby volumetric rate would be applicable in those months when Standby power is not provided (i.e. the GS 50-999 or the GS 1,000-4,999 volumetric rate)?
   v) If the customer's peak demand in a given month was 1,200 kW, would the volumetric Standby rate be applied and, if so, to what volume of kW would it be applied?
   vi) Is the monthly Standby Service Charge applied even in months when Standby Power is provided?

c) Please explain why Standby volumes are not subject to any of the following:

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i) Rate Riders as applicable to other classes
ii) RTSRs
iii) Regulatory Charges (i.e., RRRP and Wholesale Market Service rates)

RESPONSE:

a) In a situation where a customer with co-generation facilities does not draw on the standby facilities (i.e., the co-generation unit is operational all month and fully displaces a customer's monthly load requirement) the standby charges include: a monthly fixed charge (from the standard rate class tariff), the monthly Standby Service Charge, and the appropriate variable standby rate.

b)

i) The customer would be classed into the GS 1,000-4,999 rate class based on anticipated load in the absence of generation.

ii) The default contract level of standby power would be 1,500 kW (name plate value on the generator) however the customer has the option of selecting 0 to 1,500 kW based on their unique standby power requirements as part of a contract.

iii) Monthly customer meter readings are used to establish if the standby distribution facility reserved for their usage was utilized. When a generator is down for scheduled or unscheduled maintenance, there is an obvious spike in the demand recorded on the meter, which implies that the standby facilities were utilized for that month.

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iv) The standby volumetric rate that would be applicable in those months when Standby power is not provided would be the GS 1,000-4,999 volumetric rate.

v) Generally, installed co-generation facilities are expected to run 100% of the name plate values. If the customer's peak demand in this month was 1,200 kW (when it is normally 500 kW – all things being equal), Toronto Hydro would assume that the co-generation was not operational for at least an hour, the displaced load contributed to the customer's billed demand, and the customer was able to shed some load to avoid the expected 2,000 kW (co-generation capacity of 1,500 kW plus 500 kW normal load). In this situation, the volumetric Standby rate would not be applied.

vi) Yes, the monthly Standby Service Charge is applied in months when Standby Power is provided.

c) Given that these standby rates were interim and additional regulatory charges (rate riders, RTSRs and other regulatory charges) were not part of the initial submission in 2005, Toronto Hydro does not believe that the OEB's interim approval includes the application of these additional charges to standby load.

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INTERROGATORY 60:

Reference(s): **Exhibit 8, Tab 1, Schedule, page 8 (lines 1-5)**

a) Please provide a schedule that sets out, by year, the Standby Power revenues that THESL has collected based on "interim rates".

b) In the same schedule please also include the total revenues collected from customers with Standby service in each of these years.

RESPONSE:

a) Because the 2005 to 2009 billing data have been archived, it would require significant effort and time to extract the requested details. However, Toronto Hydro notes that as part of its response to interrogatory 3-VECC-35, it has provided a table with the revenue information covering the 2010 to 2013 calendar years.

b) Please see response to part (a), and refer to Toronto Hydro's response to interrogatory 3-VECC-35.

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INTERROGATORY 61:

Reference(s): **Exhibit 8**
Tab 1, Schedule 1, pages 11-12

a) Please provide an update on the status of THESL's evaluation of its historic line losses and its compliance with the EB-2012-0064 Settlement Agreement.

RESPONSE:

Toronto Hydro has made progress in its approach to evaluate historic line losses. However, the quantification of the impact to Account 1588 RSVA Power has not been completed at the present time. Toronto Hydro intends to file the updated evidence as soon as it is available.

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INTERROGATORY 62:

Reference(s): Exhibit 8, Tab 1, Schedule 1, p. 14

Preamble:

By letter dated September 18, 2014 the Board made the following comments:

> The other proposed policy amendment considered by the working group was the elimination of the effect of the half year rule on test year capital additions for the IR years. The Board intends to do further analysis on this issue before determining next steps. Accordingly, this ACM Report is limited to the establishment of the ACM and the refinement of the ICM criteria.

a) In view of the Board's decision that further analysis is required on the issue of eliminating the ½ year rule on test year capital additions, is THESL's request for relief as part of its current Application still appropriate? If so, why?

RESPONSE:

Toronto Hydro's request for relief relates to operation of the ICM model during the 2012-2014 period for Toronto Hydro. While Toronto Hydro believes the comments quoted above indicate the OEB's acknowledgement of the issue, Toronto Hydro does not believe that analysis contemplated by the OEB for future ACM and ICM criteria prevents the OEB from determining the issue in this application based on the evidence provided in Exhibit 8, Tab 1, Schedule 1.

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INTERROGATORY 63:

Reference(s): Exhibit 8, Tab 2, Schedule 1, page 3

a) Based on THESL's proposals (per lines 3-22), under what circumstances and with what frequency will THESL provide account history to its customers without a charge?

RESPONSE:

Toronto Hydro proposes to charge customers for any formal account history request which would involve extensive data gathering or which would require efforts to summarize the data for the customers' end use. Toronto Hydro would continue not to charge for any limited scope requests that do not require extensive data gathering or that can be completed with relative ease.

Toronto Hydro also notes that as an alternative, all its residential customers can continue to access their account history information free of charge through Toronto Hydro's customer web portal.

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INTERROGATORY 64:

Reference(s): Exhibit 8, Tab 2, Schedule 1, pages 3-4

a) Given that THESL is proposing to "charge" customers for missed appointments, is THESL willing to compensate (i.e. pay customers) in the event that its crews fail to attend at an arranged appointment time? If not, why not?

b) When THESL makes an appointment, how broad is the window for the appointment time?

RESPONSE:

a) Toronto Hydro does not believe it would be appropriate to reimburse customers for appointments missed by its crews. Toronto Hydro is subject to various rules and regulations governing appointment scheduling, notification, and rescheduling. As an example, Toronto Hydro msut schedule an appointment within a five-day window (Distribution System Code, s.7.3), must attend the appointment within a four-hour window (Distribution System Code, s.7.4), and must notify the customer in advance of the appointment if the appointment is going to be missed (Distribution System Code, s.7.5).

For greater clarity, this charge would only apply to missed appointments when the customer agreed to a specific appointment date and time. It would not apply to appointments that were cancelled by the customer in advance of the appointment date.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

b) The window of time for an appointment varies depending on the service being provided and the circumstances of when the appointment is made (e.g., whether well in advance of an appointment date or shortly before). In all cases, Toronto Hydro offers appointments in windows no broader than four hours (in accordance with s.7.4 of the Distribution System Code), but aims to offer more specific windows of time when this is possible.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 65:

Reference(s): Exhibit 8, Tab 2, Schedule 1, Appendix B

a) At page 6, the Application states that both THESL and telecommunication users <u>can use</u> the clearance space for their equipment (emphasis added). Please clarify this statement – can either party actually use this space on the pole or must it remain unused in order to provide appropriate clearance.

RESPONSE:

The “clearance space” is defined as the space on the pole from the ground level to the “communication space”. While this space is required to be clear of hanging wireline and other obstructive attachments (hence “clearance”), it can and is used by both Toronto Hydro and other attachers to locate supporting wiring and equipment. For example, Toronto Hydro would run wiring inside conduits along this space whenever transitioning from an overhead to an underground service, or vice versa. Similarly, telecommunication attachers occasionally locate supporting communication equipment (e.g., amplifier units) within this space. Those attachers may also run grounding wires from their equipment in the “communication space” along this “clearance” length of the pole.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 66:

Reference(s): Exhibit 9, Tab 2, Schedule 5, pages 4-5

a) What is the source of the actual historical CDM savings used in the regression analysis (per page 3, line 10)?

b) Are the historical values used for first year's impact of CDM programs: i) "annualized values" (as reported by the OPA) or ii) estimates of the actual impact in the first year of implementation?

c) Please complete the following chart based on actual (annualized) net CDM savings and provide the relevant references to the sources for the data used.

Program Year	Annualized CDM Impact (Net) by Calendar Year (MWh)							
	2006	2007	2008	2009	2010	2011	2012	2013
2006								
2007	X							
2008	X	X						
2009	X	X	X					
2010	X	X	X	X				
2011	X	X	X	X	X			
2012	X	X	X	X	X	X		
2013	x`	x	x	x	x	x	x	
Total								

d) If the historical data used was not based on "annualized" first year impacts, please also complete the following chart setting out the CDM savings as used in the analysis.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

e)

Program Year	Actual CDM Impact (Net) by Calendar Year (MWh)							
	2006	2007	2008	2009	2010	2011	2012	2013
2006								
2007	X							
2008	X	X						
2009	X	X	X					
2010	X	X	X	X				
2011	X	X	X	X	X			
2012	X	X	X	X	X	X		
2013	x`	x	x	x	x	x	x	
Total								

f) Please provide the data file with the historical data used to perform the regression analysis outlined on page 3 (lines 8-18) and the resulting regression equation and statistics.

g) Please provide a schedule that clearly outlines how the regression equation results were used to estimate the cumulative CDM in the 2011 load forecast (per page 3, lines 15-16) and the cumulative savings for 2010 year end (per page 4, lines 4-5).

h) Please re-estimate the regression equation without the spring/fall period variable(s) and provide the resulting regression equation, regression statistics and results for Tables 2 and 3.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

RESPONSE:

a) Toronto Hydro used the savings provided by the OPA in a file titled, "2006-2010 Final OPA CDM Results – Toronto Hydro-Electric System Limited".

b) The historical values used for first year's impact of CDM programs are estimates of the actual impact in the first year of implementation.

c) The table below includes 2006-2013 Annualized "net" CDM impacts by Calendar year. Please refer to part a) above for the data source.

Program Year	Annualized "net" CDM impact by Calendar Year (MWh)							
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
2006	50,152	50,152	50,152	50,152	8,710	8,710	7,968	7,968
2007		203,755	193,028	191,702	191,702	191,698	25,297	25,297
2008			109,621	107,903	107,414	107,414	105,116	101,371
2009				126,505	124,976	124,976	124,948	124,194
2010					185,646	185,350	185,282	185,269
2011						172,287	172,334	172,285
2012							111,889	110,735
2013								127,105
TOTAL	**50,152**	**253,907**	**352,800**	**476,263**	**618,450**	**790,436**	**732,834**	**854,223**

For GS 50-999 kW, GS 1000-4999 kW, and Large Use customer classes, CDM savings from DR programs were excluded.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

d) The 2006-2013 actual "net" CDM impacts by calendar year are provided in the table below.

Program Year	Actual "net" CDM impact by Calendar Year (MWh)							
	2006	2007	2008	2009	2010	2011	2012	2013
2006	20,275	50,152	50,152	50,152	33,398	8,710	8,410	7,968
2007		65,933	200,284	192,599	191,702	191,701	137,853	25,297
2008			66,392	108,580	107,607	107,414	106,022	102,848
2009				61,042	125,768	124,976	124,963	124,584
2010					122,326	185,451	185,305	185,273
2011						63,504	172,304	172,316
2012							46,405	111,379
2013								53,734
TOTAL	20,275	116,085	316,828	412,374	580,801	681,757	781,262	783,400

For GS 50-999 kW, GS 1000-4999 kW, and Large Use customer classes, CDM savings from DR programs were excluded.

e) See response to part (d) above

f) The requested data file is provided as 9_VECC_66.xlsx.

g) Please refer to Toronto Hydro's response to interrogatory 9-OEBStaff-95 part (e).

h) Presented below are the regression model outputs and results for Tables 2 and 3 without the spring/fall period variable(s) by class.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

1) Residential Model

Dependent Variable: RES_CDM_DAY
Method: Least Squares
Date: 10/24/14 Time: 14:53
Sample: 2006M01 2010M04
Included observations: 52
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TREND_INPUT_DAY	- 0.25	0.029821	- 8.28	0.00
C	- 254,394	50978.2	- 4.99	0.00

R-squared	**58.07%**	Mean dependent var	217,006
Adjusted R-squared	**57.24%**	S.D. dependent var	136,854
S.E. of regression	89,496	Akaike info criterion	25.68
Sum squared resid	400,000,000,000	Schwarz criterion	25.75
Log likelihood	- 665.67	Hannan-Quinn criter.	25.71
F-statistic	69.26	Durbin-Watson stat	1.26
Prob(F-statistic)	0.00		

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

1 2) **GS <50 kW Model**

Dependent Variable: LESS50_CDM_DAY
Method: Least Squares
Date: 10/24/14 Time: 14:55
Sample: 2007M01 2010M04
Included observations: 40
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TREND_INPUT_DAY	- 0.48	0.059258	- 8.10	0.00
C	- 388,997	60958.24	- 6.38	0.00

R-squared	**64.42%**	Mean dependent var	148,859
Adjusted R-squared	**63.49%**	S.D. dependent var	105,152
S.E. of regression	63,539	Akaike info criterion	25.01
Sum squared resid	153,000,000,000	Schwarz criterion	25.09
Log likelihood	- 498.11	Hannan-Quinn criter.	25.04
F-statistic	68.81	Durbin-Watson stat	1.27
Prob(F-statistic)	0.00		

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

3) GS 1000-4999 kW Model

Dependent Variable: GS450_EE_DAILY
Method: Least Squares
Date: 10/24/14 Time: 14:57
Sample: 2007M01 2010M04
Included observations: 40
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TREND_INPUT_DAY	- 0.27	0.032737	- 8.23	0.00
C	- 2,376	14884.06	- 0.16	0.87

R-squared	**65.40%**	Mean dependent var	153,563
Adjusted R-squared	**64.48%**	S.D. dependent var	109,966
S.E. of regression	65,534	Akaike info criterion	25.07
Sum squared resid	163,000,000,000	Schwarz criterion	25.15
Log likelihood	- 499.34	Hannan-Quinn criter.	25.10
F-statistic	71.81	Durbin-Watson stat	1.28
Prob(F-statistic)	0.00		

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

4) Large Use model

Dependent Variable: LU_CDM_EE_DAY
Method: Least Squares
Date: 10/24/14 Time: 14:57
Sample: 2007M01 2010M04
Included observations: 40
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable		Coefficient	Std. Error		t-Statistic	Prob.
TREND_INPUT_DAY	-	0.58	0.069976	-	8.23	0.00
C	-	2,332	14612.98	-	0.16	0.87

R-squared		**65.40%**	Mean dependent var	150,766
Adjusted R-squared		**64.48%**	S.D. dependent var	107,963
S.E. of regression		64,341	Akaike info criterion	25.03
Sum squared resid		157,000,000,000	Schwarz criterion	25.11
Log likelihood	-	498.61	Hannan-Quinn criter.	25.06
F-statistic		71.81	Durbin-Watson stat	1.28
Prob(F-statistic)		0.00		

Table 2: 2011 CDM savings forecast embedded in 2011 Load Forecast

Customer Class	2011 Board-Approved Purchased Load Forecast	Trend Variable, kWh	Estimated cumulative CDM Savings, kWh
Residential	5,174,271,175	-1,103,440,244	179,746,229
General Service <50 kW	2,219,756,435	-595,827,679	143,996,465
General Service 50 - 999 kW	10,496,749,821	0	0
General Service 1000 - 4999 kW	4,800,900,765	-562,121,632	150,522,902
Large Use	2,421,224,078	-258,186,760	147,780,979

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

1 **Table 3: 2011-2013 Forecasted CDM savings**

Customer Class	2011 CDM		2012 CDM		2013 CDM	
	kWh	kVA	kWh	kVA	kWh	kVA
Residential	15,798,318		29,129,392		28,709,420	
Competitive Sector Multi-Unit Residential (CSMUR)**					340,383	
General Service <50 kW	16,573,756		30,559,168		30,475,673	
General Service 50 - 999 kW		0		0		0
General Service 1000 - 4999 kW		40,065		73,620		73,429
Large Use		36,920		67,663		67,487
Total	32,372,074	76,985	59,688,559	141,283	59,525,476	140,915

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 67:

Reference(s): Exhibit 9, Tab 2, Schedule 5, pp. 4-5

a) Please explain what new information was incorporated in the Update for purposes of estimating the regression equation.

b) Please explain why the September Update led to a change in the estimated cumulative CDM savings embedded in the 2011 Load Forecast (per Table 2) versus the original Application.

RESPONSE:

a) and b)

Please refer to Toronto Hydro's response to interrogatory to 3-VECC-21 part (a).

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 68:

Reference(s): Exhibit 9, Tab 2, Schedule 5, pages 5-6

a) Please provide a revised version of Table 3 that includes the kWh savings for the GS 50-999; GS 1,000-4,999 and Large Use classes.

b) With respect the results from part (a), please reconcile the resulting 2012 and 2013 CDM kWh totals with the 2011 CDM program persisting savings reported for 2012 and 2013 (Appendix B, page 7).

c) Please explain how the allocation of forecast CDM savings to customer classes as set out in Table 3 was performed.

d) Please provide a schedule that set out the derivation of the actual 2011-2013 CDM savings for the Residential class as shown in Table 4.

RESPONSE:

a) A revised version of Table 3 is provided below:

2011-2013 Forecasted CDM Savings:

Customer Class	2011 CDM		2012 CDM		2013 CDM	
	kWh	kVA	kWh	kVA	kWh	kVA
Residential	16,077,338	n/a	29,643,858	n/a	29,216,469	n/a
CSMUR	n/a	n/a	n/a	n/a	346,394	n/a
General Service <50 kW	16,910,008	n/a	31,179,157	n/a	31,093,969	n/a
General Service 50 - 999 kW	0	0	0	0	0	0
General Service 1000 - 4999 kW	17,810,560	40,863	32,839,621	75,086	32,749,896	74,891
Large Use	17,810,536	37,655	32,839,578	69,011	32,749,852	68,831

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Customer Class	2011 CDM		2012 CDM		2013 CDM	
	kWh	kVA	kWh	kVA	kWh	kVA
Total	68,608,441	78,518	126,502,214	144,097	126,156,580	143,722

For GS 50-999 kW, GS 1000-4999 kW, and Large Use customer classes, CDM savings from DR programs were excluded.

b) The revised table with 2011 CDM program incremental and persisting savings in 2011, 2012 and 2013 is presented below. The kWh and kVA savings from 2012 and 2013 CDM programs are excluded. As a result, the totals in the table below are not compatible for 2011-2013 LRAMVA balance determination.

Customer Class	2011 CDM		2012 CDM		2013 CDM	
	kWh	kVA	kWh	kVA	kWh	kVA
Residential	7,040,991	n/a	19,100,127	n/a	18,866,810	n/a
CSMUR	n/a	n/a	n/a	n/a	232,548	n/a
General Service <50 kW	11,310,557	n/a	30,704,099	n/a	30,717,050	n/a
General Service 50 - 999 kW	23,996,792	61,746	65,104,253	115,869	65,104,253	115,869
General Service 1000 - 4999 kW	11,365,657	30,002	30,835,480	56,434	30,835,480	56,434
Large Use	9,789,750	25,582	26,559,982	48,128	26,559,982	48,128
Total	63,503,746	117,330	172,303,940	220,432	172,316,122	220,432

For GS 50-999 kW, GS 1000-4999 kW, and Large Use customer classes, CDM savings from DR programs were excluded.

c) The estimates of CDM savings forecast by class are based on the trend variable incorporated in forecasting models. For details of these estimations, please refer to Exhibit 9, Tab 2, Schedule 5, section 4, pages 3-5.

d) To obtain 2011 to 2013 residential savings, the following section of the table from the OPA's 2013 Draft Verified CDM program totals was referenced:

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

	Peak Demand Savings (kW)			Energy Consumption Savings (kWh)		
	2011	2012	2013	2011	2012	2013
Appliance Retirement	349	161	90	2,343,820	1,091,609	591,184
Appliance Exchange	52	83	65	57,879	143,607	116,004
HVAC Incentives	5,674	2,821	3,015	10,493,166	4,781,806	5,189,758
Conservation Instant Coupon Booklet	150	29	66	2,439,881	178,941	986,409
Bi-Annual Retailer Event	215	189	151	3,760,986	3,427,499	2,198,663
Retailer Co-Op	-	-	-	230	-	-
Residential Demand Response	743	22,940	34,268	1,924	168,943	116,929
Residential Demand Response (IHD)	-	-	-	-	-	-
Residential New Construction	-	-	13	-	-	105,822
Home Assistance Program	-	98	122	-	790,242	1,620,650
Adjustments to 2011 Verified	-	178	390	-	3,791,694	165,560
Adjustments to 2012 Verified	-	-	1,369	-	-	10,542,115

From this source data, the following steps were taken:

1) The residential rate class portions of the totals above were identified based on the type of program.

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

2) Each month was assigned a percentage of the annual savings that would be considered initiated in that month, which would then continue to produce savings for the next 12 consecutive months in order to achieve the annual total. For example, for the portion of projects that initiated in January of a given year, annual savings would be realized by December of the same year; however, for the portion of total projects which were considered initiated in June of a given year, annual savings would be realized by May of the following year. As a result of this application, the savings reported by the OPA for any given calendar year would actually span that given year as well as the next, in a similar but more comprehensive manner to the “half-year” rule.

3) Typical project measures were assessed for their pattern of annual savings, so as not to allocate the same level of peak demand or consumption savings each month, without discretion. For example, peak demand and consumption savings related to residential projects involving cooling loads were considered 100% realized in the hottest months (July and August); however, the savings resulting from these projects were reduced accordingly in the shoulder and heating months.

4) Finally, persistence was applied to acknowledge the continuation of savings for the typical measures implemented in each of the CDM programs and years. For the purposes of LRAMVA calculations, 2013 achievements included persistence from 2011 and 2012, while 2012 savings included persistence from only 2011. Persistence resulting from savings achieved in between 2006 and 2010 were not included.

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The approach described above produced a scheduled allocation of the OPA draft verified savings for 2011-2013, which are summarized in the table below:

	TOTAL 2011 CDM (MWh)	TOTAL 2012 CDM (MWh)	TOTAL 2013 CDM (MWh)
Jan	28	1,825	2,821
Feb	52	1,862	2,890
Mar	160	1,984	2,941
Apr	127	982	1,455
May	189	1,024	1,491
Jun	703	2,599	3,765
Jul	900	2,721	3,993
Aug	953	2,707	3,995
Sep	1,033	2,731	4,052
Oct	477	1,141	1,698
Nov	628	1,183	1,810
Dec	1,791	2,769	3,907
Totals	**7,041**	**23,529**	**34,818**

RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION INTERROGATORIES

INTERROGATORY 69:

Reference(s): Exhibit 9, Tab 1, Schedule 1, page 5

a) When does THESL expect to file the Account 1588 balance update contemplated in the application?

RESPONSE:

Toronto Hydro cannot provide an exact date as to when it expects to file any updated information related to Account 1588 (or other RSVA accounts) at this time. Toronto Hydro will file updated evidence as soon as it is available.