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RESS, EMAIL & COURIER

Ontario Energy Board
2300 Yonge Street
27th Floor
Toronto, Ontario
M4P 1E4

Attention: Ms. K. Walli, Board Secretary

Dear Ms. Walli:

Re: Toronto Hydro-Electric System Limited ("Toronto Hydro") Custom Incentive Rate Application (EB-2014-0116)

We are counsel to the applicant, Toronto Hydro, in the above referenced proceeding. On January 19, 2015 Toronto Hydro and the Association of Major Power Consumers in Ontario (AMPCO) reached a settlement on AMPCO's motion of December 31, 2014. As part of the settlement, Toronto Hydro agreed to provide certain information in response to AMPCO's information requests, as detailed before the Board on January 19, 2015. Enclosed, please find Toronto Hydro's responses.

Yours truly,

Jonathan Myers

cc: A. Klein and D. Coban, THESL
C. Keizer and C. Smith, Torys LLP
All Parties

AMPCO Motion Settlement: Toronto Hydro Response

A. Background

For purposes of settling and the withdrawal of the motion brought by the Association of Major Power Consumers in Ontario ("AMPCO") dated December 31, 2014, Toronto Hydro agreed to provide the information set out below. This information is provided without prejudice to Toronto Hydro's position that unit and cost information obtained for the purpose of calculating a unit cost is irrelevant and Toronto Hydro is free to make submissions in this regard in the future.

1. For the Distribution System Plan ("DSP") programs that AMPCO identified in its motion (i.e. E6.1, E6.2, E6.4, E6.5, E6.6, E6.7, E6.8 and E6.9), and for the specific asset types identified for each program in the same motion, Toronto Hydro agreed to provide, on a best efforts basis, numbers of assets and the dollar values associated with those assets for the years 2012 and 2013, and for the period of January to June, 2014. This information is only available on an in-service additions basis, as opposed to a capital expenditures basis.

2. Toronto Hydro agreed to provide the same information, on a best efforts basis, for the major asset types identified in programs E6.10, E6.13, E6.14 and E6.15, which were not included in AMPCO's motion or original request.

3. For the subset of capital programs listed in points 1 and 2 above, Toronto Hydro agreed to provide the number of units to be replaced in 2015 for programs that are planned on a discrete asset basis (as opposed to programs that are planned on a geographical basis), and the associated program spending for 2015.

B. Discrete Investment Programs

Further to item 3, above, the following table lists the programs within the designated subset of DSP capital programs requested by AMPCO that address discrete asset replacements, as opposed to

geographically planned rebuilds or refurbishments. While these programs are driven by the replacement of a specific major asset type, the expenditures can also include a number of other related assets, depending on the nature of each individual project. As such, a simple division of planned program expenditures by the number of units for the corresponding major asset type will not yield an asset-specific average cost that is directly comparable to the historical data provided for 2012-2014.

Table 1: Discrete Investment Programs

DSP Program	**Major Asset Type (Installed)**	**Examples of other major assets in a project**
E6.8 SCADA-Mate R1 Switch Renewal	Overhead Switch	RTU, Wooden Poles
E6.9 Network Vault Renewal	Network Vault	Network Units, Underground Cable
E6.10 Network Unit Renewal	Network Units (Transformers & Protectors)	Underground Cable
E6.13 Switchgear Renewal	Stations Switchgear (TS & MS)	Station Battery, Circuit Breakers
E6.14 Power Transformer Renewal	Stations Power Transformer	Bus Structure
E6.15 Circuit Breaker Renewal	Stations Circuit Breaker	Relays

C. Description of Data Provided

Historical Data

As explained in Ms. Rouse's affidavit dated January 16, 2015 (the "Rouse Affidavit"), Toronto Hydro is able to provide historical data for the years 2012 and 2013 using the utility's financial reporting system and by leveraging the detailed program mapping exercise that was carried out in preparing the DSP, specifically for the Incremental Capital Module ("ICM") program years (2012-2013). Historical data for 2014 (up to June) has been provided using the same sources. Data beyond June 2014 is unavailable as the year-end has not yet been closed-out or audited and the relevant program mapping exercise has not been completed.

The historical data provided is available only on an in-service basis. As explained in the Rouse Affidavit, not all capital expenditures in the years 2012 and 2013 (as well as 2014) would have gone into service in those same years. Similarly, in-service amounts associated with assets that came into service in any given year may include expenditures from prior years. Therefore, the costs and associated units provided in the tables in Section D below will not bear a direct relationship to the overall historical annual capital expenditure amounts provided in the spending summary tables in each of the identified programs.

It is also possible that a project that was placed into service in a given year could have lagging costs that appear separately as in-service additions in the following year. Therefore, the data that Toronto Hydro has been able to provide in Section D is not a true representation of average costs per unit.

As explained in the Rouse Affidavit, the financial asset classes that Toronto Hydro used to report historical actual units and costs in this response can include multiple different asset types with significantly different average costs. For example, the Overhead Switches asset class in Table 4, below, could include assets ranging from large three-phase gang-operated switches to single-phase manual cut-out switches. The financial asset sub-ledger cannot report at this lower level of detail.

It should also be noted that because this historical data is provided on an in-service basis, the units and costs necessarily represent the number of assets installed. This is distinct from the forecast information provided in the referenced DSP programs. The units provided in the DSP forecast tables for System Renewal programs represent the number of units to be replaced, removed, or otherwise intervened upon by that program. This is a particularly important distinction for programs that are not "like-for-like" in nature. For example, Toronto Hydro is planning to remove rear lot plant that may be situated either overhead or underground, depending on the area. However, regardless of the current rear lot configuration, Toronto Hydro replaces existing rear lot plant with front lot, underground plant. Therefore, the historical information provided will be based on the new front lot plant installed, whereas the forecast

information will be based on the quantity of existing rear lot plant to be replaced. This means that the historical unit counts provided in Section D below are not directly comparable to the forecasted unit counts summarized in the DSP evidence.

Moreover, while some programs may on the surface appear to be "like-for-like", it is likely that the rebuilt plant will nevertheless differ on an asset unit count basis from the existing plant due to changes in design and construction standards, field conditions, feeder loading and other considerations over time. For example, Toronto Hydro may replace a larger number of existing low kVA rated transformers with a smaller number of higher kVA rated transformers in order to improve cost efficiency in the renewed feeder design.

Forecast Data

The forecast unit count and program cost information that Toronto Hydro has summarized in Section E is taken directly from the original DSP program evidence. As explained in Section B above, this information cannot be used to derive an average asset unit cost for the referenced asset types because overall program costs may include expenditures related to other types of assets.

The forecast information provided in Section E is total capital expenditures by program. The historical actual information for 2012-2014 is provided on an in-service basis. Accordingly, the data will not be directly comparable.

D. Historical Units and Costs (2012 to June 2014)

The tables provided in this section summarize the historical number of units and the in-service dollar amounts associated with those units for each of the programs and asset types requested by AMPCO. As explained in Mr. Walker's affidavit dated January 13, 2015 and filed by Toronto Hydro (the "Walker Affidavit"), the information provided below does not permit the meaningful comparison of unit costs over

time since the data does not provide insights with respect to what happens on a particular project design or execution of a particular project.

Project costs are influenced by the variety of circumstances and factors that Toronto Hydro encounters across its large and diverse system. For example, pole installations as part of an Overhead Circuit Renewal project can be subject to the following variables: installation in soil or in concrete; location of the pole (i.e. downtown, suburban, road with or without parking); type and number of connected circuits (i.e. single phase, three-phase, 27.6 kV, 13.8 kV, 4.16 kV, or a combination of these); type and number of other equipment installed on the pole (i.e. switches, risers, transformers, etc.); and the loading conditions and switching requirements applicable to the pole. These variables can change from project to project, from pole to pole within a project, or from time to time. The unique combination of variables encountered on a particular project will affect the cost of that project. For example, on a pole installation project the cost of the project will be affected by such factors as whether the poles need to be installed in concrete as compared to soil, or whether the poles can be installed during regular business hours or must be installed outside of regular business hours.

Because of the diverse conditions and circumstances encountered across Toronto Hydro's system, the mix of work within a project and the mix of projects within a program vary considerably from year to year. As an example, the majority of projects in the Overhead Circuit Renewal program in a given year may be executed in the suburbs where crews generally encounter fewer restrictions and complexities when installing poles. The next year, the bulk of the work within the program may shift to the downtown core, where pole installations are typically more complex and time consuming. As a result of these geographical differences, the number of pole installations would likely be significantly higher but with much lower costs in the first year as compared to the second year. A comparison of the cost per pole installed in these years would not reflect the diverse conditions and circumstances encountered and, as a result, would not be meaningful.

Please note that in most cases the 2012 ISA unit counts and dollar amounts in the following tables are significantly lower than in 2013 and 2014, and in some cases are zeros. This is due to the ramp-down of Toronto Hydro's capital program that occurred following the decision in the utility's 2012-2014 Cost of Service application, and pending the Phase 1 IRM/ICM decision.

Table 2: E6.1 Underground Circuit Renewal

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
Underground Cable	Underground Primary In-duct-XLPE	M	106,291	$ 6,715,307	283,719	$ 15,431,361	31,033	$ 1,524,924
Underground Switches	Underground Switch Installation	EA	36	$ 2,695,127	40	$ 3,115,838	3	$ 289,065
Underground Transformer	Underground Distribution Transformer	EA	85	$ 1,052,331	270	$ 4,747,080	122	$ 2,222,103

- Please note that Underground Cable is reported in terms of meters of cable in the above table. For the forecasted units that appear in the DSP program evidence, the amount of cable is represented in terms of circuit kilometres, which does not take into account the number of phases in a section of feeder. As such, these measures are not directly comparable.

Table 3: E6.2 Paper-Insulated Lead-Covered Leakers and Cable Piece-Outs

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
Underground Cable	Underground Primary PILC	M	-	$ -	525	$ 111,443	579	$ 253,474

Table 4: E6.4 Overhead Circuit Renewal

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
Wood Poles	Wooden Poles	EA	147	$ 1,047,156	2,672	$ 15,205,774	804	$ 4,051,829
Concrete Poles	Concrete Poles	EA	3	$ 16,505	39	$ 432,769	5	$ 68,159
Overhead Switches	Overhead Switches, Overhead SMD-20 Switches	EA	47	$ 849,687	569	$ 4,422,034	68	$ 286,201
Overhead Transformers	Overhead Polemount Transformers	EA	113	$ 1,320,316	730	$ 7,332,735	205	$ 2,203,596

Table 5: E6.5 Overhead Infrastructure Relocation

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
Poles	Not Applicable - New Program in 2015							
OH Conductor (mts)								
OH Switches								
OH Transformers								
Underground Cable								

Table 6: E6.6 Rear Lot Conversion

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
Poles	Wooden Poles	EA	2	$ 8,323	131	$ 1,219,236	-	$ -
Transformers	Underground Distribution Transformer, Overhead Polemount Transformers	EA	-	$ -	158	$ 2,547,017	47	$ 555,704
Manual Switch	Underground Switch Installation, Overhead Switches, Overhead SMD-20 Switches	EA	-	$ -	39	$ 599,518	12	$ 36,310
Fuse	Not Applicable - Not tracked in financial asset sub-ledger							
Riser								
Conductor (m)	Overhead Lines	M	-	$ -	2,581	$ 197,148	-	$ -
Cable (m)	Underground Primary In-duct-XLPE	M	-	$ -	40,937	$ 4,164,428	8,782	$ 715,142

Table 7: E6.7 Box Construction Conversion

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
OH Transformer	Overhead Polemount Transformers	EA	-	$ -	120	904,168	11	$ 7,330
OH Switch	Overhead Switches, Overhead SMD-20 Switches	EA	-	$ -	61	$ 326,611	3	$ 421
Poles	Wooden Poles, Concrete Poles	EA	-	$ -	257	$ 1,409,059	208	$ 722,496
UG Switch	Underground Switch Installation	M	-	$ -	-	$ -	-	$ -
UG Transformer	Underground Distribution Transformer	EA	-	$ -	12	$ 162,685	-	$ -
OH Conductor (km)	Overhead Lines	M	-	$ -	28,914	$ 644,636	5,173	$ 8,874
UG Cable (km)	Underground Primary In-duct-XLPE	M	-	$ -	4,272	$ 577,285	-	$ -

Table 8: E6.8 SCADA-Mate R1 Switch Renewal

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
R1 Switch	Overhead Switches	EA	-	$ -	31	$ 957,343	-	$ -
RTU	System Supervisory Scada RTU	EA	-	$ -	25	$ 732,206	-	$ -

Table 9: E6.9 Network Vault Renewal

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
Vaults	Underground Vault	EA	-	-	15	$ 3,888,327	-	$ -
Roofs	Underground Vault Roof	EA	2	$ 113,203	5	$ 497,433	2	$ 315,172
UG Network Units	Underground Network Transformers	EA	-	-	36	$ 2,998,417	4	$ 323,468

Table 10: E6.10 Network Unit Renewal

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
Network Unit (Transformer & Protector)	Underground Network Transformers	EA	43	$ 2,226,623	90	$ 6,191,413	8	$ 587,140

Table 11: E6.13 Station Switchgear Renewal

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
TS Switchgear	HONI Contributions		N/A	$ 5,475,623	N/A	$ 2,597,670	N/A	$ -
MS Switchgear	Substation Equpiment Air Insulated Switch	EA	-	-	-	-	2	$ 3,426,968

- Note that no TS switchgear were put into service in the time period covered by the table above. The ISA dollars shown for TS switchgear represent lagging HONI contribution expenditures related to previously installed switchgear assets.

Table 12: E6.14 Power Transformer Renewal

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
Stations Power Transformer	Substation Transformer	EA	7	$ 3,849,895	1	$ 529,308	4	$ 1,391,540

Table 13: E6.15 Circuit Breaker Renewal

AMPCO Requested Assets	THESL Financial Assets Installed	Unit of Measure	2012 ISA Quantities	2012 ISA Dollars	2013 ISA Quantities	2013 ISA Dollars	As at June 2014 ISA Quantities	As at June 2014 ISA Dollars
KSO Oil Circuit Breakers	Substation Equipment - Outdoor Breaker	EA	3	$ 487,266	5	$ 857,882	1	$ 162,730

E. 2015 Discrete Asset Program Forecasts

Table 14: E6.8 SCADA-Mate R1 Switch Renewal (2015 forecast)

Major Asset Type (Replaced)	2015 Estimated Units	2015 Total Estimated Program Cost
SCADA-Mate R1 Switch	72	$ 6.16 M

- Note that if an obsolete RTU exists at an R1 switch location, the RTU may also be replaced, which will affect the total cost of the R1 replacement. Toronto Hydro estimates that 52 RTUs will be replaced in 2015.

Table 15: E6.9 Network Vault Renewal (2015 forecast)

Major Asset Type (Project Type)	2015 Estimated Units	2015 Total Estimated Program Cost
Network Vault Rebuild	4	$ 2.95 M
Network Vault Roof Rebuild	4	$ 0.70 M
Network Vault Decommissioning	2	$ 0.30 M

- Note that while the Network Vault Renewal program deals with discrete assets, the intervention on those assets will vary depending on requirements. Intervention can include a full vault rebuild, a roof rebuild only, or vault decommissioning. Each planned 2015 project in this program (summarized in Exhibit 2B, Section E6.9, Table 9) corresponds to a particular project type for a discrete unit; as such, Toronto Hydro is able to provide the estimated costs related each type of network vault project in 2015, as shown in the table above.

Table 16: E6.10 Network Unit Renewal (2015 forecast)

Major Asset Type (Replaced)	2015 Estimated Units	2015 Total Estimated Program Cost
Network Units (Transformer & Protector)	40	$ 3.95 M

Table 17: E6.13 Switchgear Renewal (2015 forecast)

Major Asset Type (Replaced)	2015 Estimated Units	2015 Total Estimated Program Cost
MS Switchgear	3	$ 11.9 M
TS Switchgear	0	

Table 18: E6.14 Power Transformer Renewal (2015 forecast)

Major Asset Type (Replaced)	2015 Estimated Units	2015 Total Estimated Program Cost
Power Transformer	4	$ 1.68 M

- Please note that the total cost in the table above includes one project for the installation of an oil containment unit at an existing power transformer location. This project is estimated to cost $161 K and will not result in the replacement of a power transformer.

Table 19: E6.15 Circuit Breaker Renewal (2015 forecast)

Major Asset Type (Replaced)	2015 Estimated Units	2015 Total Estimated Program Cost
KSO Oil Circuit Breaker	10	$ 1.66 M