PSE and Toronto Hydro Responses to Staff and PEG Interrogatories

To PSE

1. For PSE's combined Ontario-US cost benchmarking model; US-THESL cost benchmarking model; US-THESL SAIFI benchmarking model; and US-THESL SAIDI benchmarking model; please provide the following:

a. All data used in the respective study, in the form of a Microsoft Excel spreadsheet

b. All other Excel files that made use of the source data and produced measures that were used, directly or indirectly, by the respective benchmarking models

c. All Excel or other files used to produce the Tables and Figures in the PSE benchmarking report

d. The computer code used to generate results for the respective benchmarking models

To be submitted directly to PEG by PSE following the execution of a non-disclosure agreement.

e. The output of the computer program for each respective model; this output should include and clearly identify:

i. All coefficient estimates

ii. All standard errors of coefficient estimates

iii. The number of observations for each regression equation

iv. The actual and predicted values for the dependent variable in the regression, on average for the three most recent sample years, for each company in the sample

v. The p-value on the test of the hypothesis that the actual value of the dependent variable is equal to the predicted value, on average over the three most recent sample years, for each company in the sample

vi. The Rbar-squared for each respective model

vii. The Durbin-Watson statistic for each regression

viii. The number of observations for which monotonicity conditions were satisfied

ix. The number of observations for which concavity conditions were satisfied

Please see the file named "SAIDI_a COMBINEDdata", "SAIFI_a COMBINEDdata", "SAIDI_a USdata", "SAIFI_a USdata", "TC_COMBINEDdata", and "TC_USdata"

2. Please confirm the units for the km of line data used in the study, specifically:

a. For the overhead line length data used by PSE for THESL, were the data expressed as circuit km, conductor km, or pole km?

The data is expressed as "Distr TOTAL Miles," as defined by *Platts UDI Directory of Electric Power Producers and Distributors*.

The unit of measurement for line length in the PSE study is total <u>miles</u> of line, rather than kilometers. To be consistent across both Ontario and U.S. utilities, PSE used North American line length data from *Platts UDI Directory of Electric Power Producers and Distributors* for all of the Ontario distributors (including THESL) and for all U.S. utilities. The Platts data presents data for Ontario and U.S. utilities in miles, rather than kilometers. The PSE study did not break down overhead versus underground line miles, but rather used total line miles in the construction of the customer density variable.

In *Platts*, "Distr TOTAL Miles" is a sum of overhead pole miles ("Distr (OH) Pole Miles") and underground circuit miles ("Distr (UG) Circuit Miles"), both of which are independent of three-phase vs. single phase wire. For example, the Platts definition of "Distr (UG) Circuit Miles" says, in part:

> **An underground (UG) circuit mile is a physical length of one mile of a distribution cable circuit, whether 3-phase or single phase, and whether occupying conduit banks with other circuits or not. (*Platts UDI Directory of Electric Power Producers and Distributors*, 2013, p. xiii)**

Please see the last full paragraph (page 17) in the PSE report, where it states,

> **"The customer density variable measures how many retail customers are served per length of line. The customer data is the same data that is used for the retail customer variable. The 'miles of line' data for both U.S. and Ontario utilities is gathered through various editions of *Platts UDI Directory of Electric Producers and Distributors*."**

Board staff may be inquiring about the overhead line length because of the "percent plant underground variable" that is found in the U.S.-only model.

However, this variable was constructed by taking the ratio of underground plant in service divided by total distribution plant in service, rather than taking a ratio of the overhead line length to total line length.

b. For the underground line length data used by PSE for THESL, were the data expressed as circuit km, conductor km, or pole km?

Please see PSE's response to question 2, part a.

c. For the overhead line length data used by PSE for the US sample, were the data expressed as circuit km, conductor km, or pole km?

Please see PSE's response to question 2, part a.

d. For the underground line length data used by PSE for the US sample, were the data expressed as circuit km, conductor km, or pole km?

Please see PSE's response to question 2, part a.

3. Please state whether or not the cost data for US sample companies include any of the following accounts:

a. Account 904: Uncollectible Accounts

The cost data for the U.S. sample does include Account 904: Uncollectible Accounts. No accounts were excluded within the category of customer account expenses (Accounts 901 to 905). Based on PSE's current understanding, this cost category generally aligns with the OEB's definition of "Billing and Collecting" expenses found in the OEB's Uniform System of Accounts.

PSE is aware that in the 3rd Generation Incentive Regulation OM&A cost definition, bad debt expenses (Account 5335) were included. PSE did not find mention of any exclusions made to billing and collecting expenses within PEG's report ("Productivity and Benchmarking Research in Support of Incentive Rate Setting in Ontario: Final Report to the Ontario Energy Board").

b. Account 926: Pensions and Benefits

The cost data for the U.S. sample does include Account 926: Pensions and Benefits. No accounts were excluded within the category of administration and general expenses (Accounts 920 to 931). Based on PSE's current understanding, this cost category generally aligns with the OEB's definition of "Administrative and General" expenses found in the OEB's Uniform System of Accounts. As discussed in more detail in PSE's response to question 5, PSE only allocates a portion of A&G costs for U.S. utilities that also perform transmission and/or generation functions.

PSE is aware that in the 3rd Generation Incentive Regulation OM&A cost definition, Employee Pensions and Benefits (Account 5645) was included in that definition. PSE did not find mention of any exclusion made to pension and benefit expenses within PEG's report ("Productivity and Benchmarking Research in Support of Incentive Rate Setting in Ontario: Final Report to the Ontario Energy Board").

b. Account 927: Franchise Fees

The cost data for the U.S. sample does include Account 927: Franchise Fees. No accounts were excluded within the category of administration and general expenses (Accounts 920 to 931). Based on PSE's current understanding, this cost category generally aligns with the OEB's definition of "Administrative and General" expenses found in the OEB's Uniform System of Accounts. As discussed in more detail in PSE's response to question 5, PSE only allocates a portion of A&G costs for U.S. utilities that also perform transmission and/or generation functions.

PSE is aware that in the 3rd Generation Incentive Regulation OM&A cost definition, Franchise Requirements (Account 5650) were included. PSE did not find mention of any exclusion made to franchise requirement expenses within PEG's report, "Productivity and Benchmarking Research in Support of Incentive Rate Setting in Ontario: Final Report to the Ontario Energy Board."

c. Accounts 408-409: Federal income taxes, Other income taxes, Taxes other than income taxes

Accounts 408-409 are not included in the cost data for the U.S. sample. It is PSE's understanding that this aligns with PEG's cost definition, as they state on page 30 of their report, "It should be noted that PEG's capital cost and capital service price measures do not include tax costs".

4. Please identify any other FERC accounts there were eliminated from PSE's definition of OM&A cost for either THESL or the US sample.

All Power Production, Transmission, and Regional Market expenses are excluded from the definition of OM&A cost. As described in the next question, a portion of A&G expenses is also excluded for those utilities that perform transmission or generation functions.

5. Please describe the process and formulae used to allocate the Administrative and General (A&G) expenses of vertically-integrated US utilities to that utility's electricity distribution function. Relatedly, please explain whether 100% of A&G expenses of vertically integrated utilities were assigned to electricity distribution.

PSE allocates A&G expenses for U.S. vertically integrated utilities by taking the proportion of the studied distribution portion of expenses to the total expenses and multiplying that proportion to total A&G expenses (total

expenses do not include A&G expenses, fuel costs, purchased power expenses, and transmission by others expenses).

As a brief example, if a U.S. utility's transmission and generation expenses (without fuel or purchased power expenses and transmission by other pass-through expenses) were 50% of the utility's non-A&G total expenses (which is the sum of transmission, generation, distribution, customer accounts, customer service and information, and sales), then 50% of the utility's A&G expenses would be allocated to the cost data used in the study.

The explicit formulae for the A&G allocator are provided below:

$$\boldsymbol{Cnet = Total\ Expenses - Purchased\ Power - Fuel\ expenses - Transmission\ by\ others}$$

$$\boldsymbol{Allocator} = \frac{(\boldsymbol{Distribution\ + CSI + Customer\ Accounts + Sales})}{(\boldsymbol{CNET - A}\&G\ expenses)}$$

$$\boldsymbol{Allocated\ A}\&G = Allocator * A\&G\ expenses$$

6. PSE says that the US cost data used in its cost benchmarking study were consistent with the Ontario cost benchmarking data used by PEG in 4th Generation Incentive Regulation. Please explain the steps PSE took to make the following cost adjustments to the US cost data, and reference the relevant parts of the worksheets making these adjustments:
a. Adding contributions in aid of construction to capital expenditures

To PSE's knowledge, the FERC Form 1 used for the U.S. data does not provide data on "contributions in aid of construction." To create comparable cost data, PSE used the capital data used by PEG in the capital calculations for total factor productivity (TFP), which excludes contributions in aid of construction from the gross plant value.

b. Removing the capital costs of all transmission substations greater than 50 kV

The U.S. capital cost data in the PSE dataset does not include capital costs from transmission substations. All cost categories, including OM&A and capital cost data, exclude transmission costs from the cost definitions.

c. Removing the costs of high voltage OM&A expenses

If by "high voltage" Board staff is referring to transmission-related OM&A expenses, PSE's OM&A cost data excludes all high voltage transmission system expenses. PSE's OM&A definition for the U.S. sample only includes: expenses classified as distribution; customer service and information; customer accounts; sales; and an allocated portion of administrative and general. This is comparable with the Ontario data, which does not include transmission-related expenses.

d. Removing CDM expenditures

PSE did not remove CDM expenditures from the U.S. sample. To PSE's knowledge, the FERC Form 1, which is used for the U.S. sample cost data, does not provide a breakdown of CDM expenditures that would enable removal of those expenses in the cost definition.

<u>To THESL</u>

7. THESL reports 9,913 circuit km of distribution line on its 2012 RRR filing. Please reconcile this value with the value used for 2012 km of line for THESL in PSE's benchmarking report.

As discussed in PSE's response to Question 2 (a), the source of the line miles value for Toronto Hydro and all other utilities studied in PSE's benchmarking report is *Platts UDI Directory of Electric Power Producers and Distributors*. At the time of the benchmarking report's development, PSE advised Toronto Hydro that the Platts directory is a reputable source for electric utility industry data, frequently utilized for the purposes of econometric benchmarking by industry experts, including PEG. The Platts dataset was deemed optimal for the purposes of the benchmarking study,

since it included distribution line length data from both U.S, and Ontario distributors, in what Toronto Hydro understands to be a consistent format.

PSE informs Toronto Hydro that the line miles length entry for the utility in the PSE report is 16,154 miles. This length is consistent with the information filed in Toronto Hydro's most recent annual information filing (AIF) with the Ontario Securities Commission, where the utility reported having a total of 25,880.9 km (16,082[miles) of overhead and underground conductors installed on its system, comprised of primary and secondary overhead and underground conductors. (Toronto Hydro is uncertain as to the nature of the approximately71 mile discrepancy between the PLATTS data and the utility's AIF data, but suspects that the issue may lie with the timing of results reporting.) The difference between the amounts reported in the 2012 RRR filing and the PSE benchmarking report is therefore that the former is only made up of primary voltage lines, while the other latter includes both primary and secondary lines, as represented in the Platts directory.

8. Please provide:
a. The total MVa capacity of substations owned by THESL.

b. The MVa capacity of the Cavanaugh station and any other THESL-owned station that takes incoming power at voltage levels greater than or equal to 50 kV.

The data shown below represents the summer capacity available to Toronto Hydro at each of the 35 transformer stations supplying load within Toronto Hydro's service territory. For stations with Hydro One owned transformation, the available capacity is determined by Hydro One and communicated to Toronto Hydro. All stations listed below are supplied from 230 kV or 115 kV.

Group 1: Entirely Toronto Hydro owned stations.

Station	Assigned Capacity (MVA)
CAVANAGH TS	174
Total	***174***

Group 2: Joint Toronto Hydro / Hydro One owned stations (demarcation is between HONI-owned transformer secondary breaker and THESL-owned station distribution bus).

Station	Assigned Capacity (MVA)
BASIN TS	98
BRIDGMAN TS	209
CARLAW TS	120
CECIL TS	238
CHARLES TS	234
DUFFERIN TS	188

DUPLEX TS	142
ESPLANADE TS	207
GERRARD TS	39
GLENGROVE TS	98
MAIN TS	84
STRACHAN TS	186
TERAULEY TS	240
WILTSHIRE TS	125
WINDSOR TS	346
Total	***2554***

Group 3: Hydro One owned stations (demarcation after HONI-owned station feeder breaker or between HONI-owned station bus and THESL-owned station feeder breaker).

Station	***Assigned Capacity (MVA)***
AGINCOURT TS	183
BATHURST TS	351
BERMONDSEY TS	367
ELLESMERE TS	199
FAIRBANK TS	192
FAIRCHILD TS	376
FINCH TS	382
HORNER TS	192
LEASIDE TS	221
LESLIE TS	343
MALVERN TS	185
MANBY TS	238
REXDALE TS	196
RICHVIEW TS	479
RUNNYMEDE TS	117
SCARBOROUGH TS	358
SHEPPARD TS	221
WARDEN TS	192
WOODBRIDGE TS	30
Total	***4822***

9. Please provide data for RRR accounts 5645, 5646, and 5647 for each year from 2002 to 2012.

Toronto Hydro notes that accounts 5646 ("Employee Pensions and OPEB") and 5647 ("Employee Sick Leave") are new accounts created to reflect IFRS implications (IAS 19). The new Accounting Procedures Handbook (which introduced these two new accounts) came into effect January 1, 2012 for companies that have adopted IFRS. The guidelines to report the amounts intended to be captured by these accounts do not apply to Toronto Hydro as the utility was not under IFRS during the years requested. Toronto Hydro will be adopting IFRS starting in 2015.

As to account 5645 (OMERS Pensions and Benefits), over the timeframe in question, Toronto Hydro has only reported a value in this account once – in 2005 (a credit of $4.7 million). This was specifically done to comply with a guidance issued by the OEB on February 15, 2005. In that guidance, the OEB directed LDCs to record the pension costs associated with the cash contributions paid to Ontario Municipal Employees Retirement Savings ("OMERs") for 2005 and subsequent years to account 1508 and the corresponding credit to account 5645. This OEB direction was given in response to the cessation of the OMERs pension contribution holiday which ended December 31, 2002. To date, Toronto Hydro has had no credits to record in account 5645 beyond the 2005 entry.

Toronto Hydro has included all its payroll burden costs, included OMERS costs, in the annual RRR filings. OMERS-related payroll burden costs are included in accounts corresponding to the functional area where the expenditures were incurred (e.g. account 5615, General Administrative Salaries and Expenses").