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December 23, 2014

BY FAX & BY COURIER

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge St, Suite 2701
Toronto ON M4P 1E4

Dear Ms. Walli:

Board File No. EB-2014-0116
Toronto Hydro-Electric System Limited 2015 Rates
Energy Probe – Interrogatories to Pacific Group Economics Research

Attached please find the Interrogatories of Energy Probe Research Foundation (Energy Probe) to Pacific Group Economics Research c/o Board staff in the Toronto Hydro-Electric System Limited 2015 Rates proceeding.

Should you require additional information, please do not hesitate to contact me.

Yours truly,

David S. MacIntosh
Case Manager

cc: Martin Davies, Ontario Energy Board staff (By email)
Amanda Klein, Toronto Hydro (By email)
Daliana Coban, Toronto Hydro (By email)
Charles Keizer, Torys LLP (By email)
Crawford Smith, Torys LLP (By email)
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Energy Probe Research Foundation 225 BRUNSWICK AVE., TORONTO, ONTARIO M5S 2M6

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Ontario Energy Board

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, (Schedule B);

AND IN THE MATTER OF an application by Toronto Hydro-Electric System Limited for an order approving just and reasonable rates and other charges for electricity distribution to be effective May 1, 2015 and for each following year effective January 1 through to December 31, 2019.

Interrogatories to Pacific Economics Group

Energy Probe Research Foundation

December 22, 2014

Toronto Hydro Electric System CIR Plan
Interrogatories of Energy Probe Research Foundation
To Pacific Economics Group Research

1 - Energy Probe – 1

Ref: PEG REPORT, Chapter 4, Page 39

Preamble:

Precipitation is correlated with vegetation and wildlife, both of which are common causes of interruptions. For all three of these variables, the expected sign on the SAIDI and SAIFI coefficients are expected to be positive, because higher values for HDD, CDD, and precipitation are all expected to be associated with higher SAIDI and SAIFI values.

- a) Why is PEG using Precipitation rather than a Percent Forestation variable (PSE) in its model?
- b) What can the PEG Model tell us about the relationship between Precipitation and Tree Contact and Vegetation Management and Outages?
- c) Given THESLs high Tree Contact outage history, can the PEG model be used to inform decisions on increasing/decreasing the investment in THESL's Vegetation Management Program? Please Discuss.
- d) Can simultaneous benchmarking of cost and reliability be applied to individual Reliability subsets such as Tree Contact, Defective Equipment etc.? Please discuss how this would be done for both SAIDI and SAIFI.

1 - Energy Probe – 2

Ref: PEG REPORT, Chapter 5, Page 45

Preamble:

If the Board is asked in the future to assess the statistical relationship between cost and reliability in regulatory applications, effort should be directed towards developing appropriate simultaneous benchmarking models rather than relying on statistical tools that are not fit for this purpose.

- a) If customers want improved reliability what tools are available to inform the link between Cost (CAPEX and OM&A) and Reliability SAIFI/SAIDI?
- b) THESL has provided Projections for Improved Reliability.

EB-2014-0116
 Technical Conference
 Schedule J1.2-EP-52
 Filed: 2014 Nov 24
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TECHNICAL CONFERENCE UNDERTAKING RESPONSE TO ENERGY PROBE RESEARCH FOUNDATION

Measure ¹	2014 Forecast	2015 Projection	2016 Projection	2017 Projection	2018 Projection	2019 Projection
SAIDI	0.97	1.16	1.1	1.05	1.01	0.95
SAIFI	1.31	1.39	1.28	1.2	1.11	1.03
CAIDI	0.74	0.83	0.86	0.87	0.91	0.92
FESI						
MAIFI	2.76	2.36	2.24	2.13	2.02	1.91

What weight should be placed on these metrics and projections and the relationship to the increased CAPEX (and to a lesser degree) OM&A Program under the CIR Plan.? Please provide PEG's opinion(s).

1 - Energy Probe – 3

Ref: PEG REPORT, Chapter 7, Page 55

Preamble:

PEG's review identified a number of areas in which the costs of THESL and the US were not comparably defined or measured. After correcting and/or controlling for these differences, and eliminating an unwarranted "**urban core dummy**" variable from PSE's econometric cost model, PEG found THESL's costs were 9.7% above its expected costs. The Company's total costs are projected to be 34.7% above its expected costs in 2019, the final year of its Custom IR plan.

- a) Please clarify the relationship between percentage of Distribution Underground and Urban Density.
- b) Please discuss if the higher costs of underground transformers and other assets are only justified in high density Urban Cores.

1 - Energy Probe – 4

Ref: PEG REPORT, Chapter 7, Page 55

Preamble:

PSE found the Company's SAIFI performance was 73% above its expected value but found THESL's SAIDI was 50% below its expected SAIDI. PEG believes the data PSE used for its reliability benchmarking are not suitable for regulatory application, so we compiled an alternative SAIFI and SAIDI dataset and used it to estimate alternate SAIFI and SAIDI benchmarking models. Using these data and models, PEG confirms PSE's finding that THESL's SAIFI is far above its expected level, but we find the Company's SAIDI is not statistically different from its expected level.

- a) In PEG's view, is SAIDI or SAIFI most important? Or alternatively are both appropriate performance measures. Please discuss.
- b) Is benchmarking SAIDI or SAIFI to CAPEX valid for both measures? Please discuss.

1 - Energy Probe – 5

Ref: PEG REPORT, Chapter 7, Page 56

Preamble:

PEG believes there may be value to ratepayers in extending the period of THESL's capital spending program. Doing so is consistent with the RRFE principles of pacing and prioritization of capital spending, while at the same time managing the pace of rate increases for customers. PEG therefore recommends that the capital expenditures in THESL's Custom IR plan be spread out over eight years (2015-2022) rather than concentrated in five years (2015-2019).

- a) Is PEG recommending extending the CIR Plan Period from 2014-2019 to 2022?
- b) If NO, provide a revised analysis of the CAPEX 2014-2019 and associated PCI Price index in the format of Table 8.
- c) If YES please explain the rationale for departing from the RRFE Framework.
- d) Please provide a revised analysis 2014-2022 in the format of Table 8.

Table Eight

Comparison of Custom PCI Values between Toronto Hydro and PEG for Custom IR Period

<u>Year</u>	Toronto Hydro				PEG			
	2016	2017	2018	2019	2016	2017	2018	2019
Inflation	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
X = Stretch Factor	-0.3%	-0.3%	-0.3%	-0.3%	-0.6%	-0.6%	-0.6%	-0.6%
Cn	4.10%	7.56%	6.67%	5.01%	2.56%	4.73%	4.17%	3.13%
Stretch Factor * Scap	N/A	N/A	N/A	N/A	-0.40%	-0.41%	-0.42%	-0.43%
Billing Determinant Adjustment	N/A	N/A	N/A	N/A	-1.50%	-1.50%	-1.50%	-1.50%
Scap	67.10%	69.20%	70.80%	71.90%	66.90%	68.50%	70.22%	71.35%
Change in Custom PCI	4.56%	7.99%	7.08%	5.40%	1.03%	3.16%	2.58%	1.52%
Average Annual PCI Growth				6.26%				2.07%