EB-2013-0421

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 Hydro One Networks Inc. for an order or orders pursuant to Section 92 of the *Ontario Energy Board Act, 1998* (as amended) granting leave to construct transmission line facilities in the Windsor-Essex Region, Ontario.

INTERROGATORIES OF
ENERGY PROBE RESEARCH FOUNDATION
("ENERGY PROBE")

PHASE 2
COST ALLOCATION ISSUES

April 3, 2015

ONTARIO HYDRO NETWORKS INC.
TRANSMISSION LEAVE TO CONSTRUCT – PHASE 2
COST ALLOCATION ISSUES
EB-2013-0421

ENERGY PROBE RESEARCH FOUNDATION
INTERROGATORIES

HO Feasibility/DCF analyses

Phase 2-Energy Probe-1

Ref: Hydro One Tx EB-2014-0141 Decision and
Exhibit B, Tab 4, Schedule 3, Page 17, Table 6

a) Please provide the reference and extract for the OEB-approved 2014 and 2015 Cost of Capital.

b) Please provide the reference(s) for the OEB-approved Average Tx OM&A of $1.5 per km of line.

c) Please compare the costs provided above to those used in the DCF analyses including ROE of 9.3% on common equity, 2.16% on short-term debt, 4.98% forecast cost of long-term debt, 40/60 equity/debt split, and income tax rate (PILs) of 26.5%.

Phase 2-Energy Probe-2

Ref: Exhibit B, Tab 4, Schedule 3, Tables 1 & 2, DCF Analyses Line and Transformation Pools

a) Please provide a live Excel Spreadsheet with the Line and Transformation Pool baseline DCF analyses

b) Please list in detail all input assumptions and sources.

c) Please provide commentary regarding variability of these assumptions.

Phase 2-Energy Probe-3

Ref: Exhibit B, Tab 4, Schedule 3, Table 3, Revenue Requirement and Rate Impacts for Line Pool

a) Please Provide a live Excel Spreadsheet for the Revenue Requirement Analyses for the Line Pool.

b) Please provide references/sources for Table 3 inputs:

- **Average Rate Base,**
- **Incremental OM&A Costs,**
- **Depreciation.**

c) Please provide sources/basis for following Table 3 Base Year Inputs:

- **Line Pool Revenue Requirement including sufficiency/(deficiency) 207 Line GW242,**
- **Line Pool Rate ($/kw/month) 0.86.**

Phase 2-Energy Probe-4

Ref: Exhibit B, Tab 4, Schedule 3, Table 4, Revenue Requirement and Rate Impacts for Transformation Pool

a) Please provide a live Excel Spreadsheet for the Revenue Requirement Analyses for the Transformation Pool.

b) Please provide references/sources for Table 4 inputs:

- **Average Rate Base,**
- **Incremental OM&A Costs,**
- **Depreciation.**

c) Please provide sources/basis for following Table 4 Base Year Inputs:

- **Line Pool Revenue Requirement, including suff/(defic) 413,**
- **Line GW 206,**
- **Line Pool Rate ($/kw/month) $2.00.**

Load forecast

Phase 2-Energy Probe-5

Ref: Exhibit B, Tab 4, Schedule 3

a) Please provide a breakdown of the historic and forecast loads, including the total and individual HO Dx and LDCs.

b) Relate this to the Load Forecast used in the DCF analyses.

- **38.3 Mw in first service year,**
- **Historic growth rate compared to future/forecast growth rate.**

Provide any required notes re differences.

c) Please provide a sensitivity analysis showing the DCF Analyses for a 10%NCP load Increase and 10% NCP load decrease in the first 5 years, 10 years and 10 years plus. Please provide the corresponding Allocations and contributions to the Transmission System Pool and to Load Customers

Primary Cost Allocation to HO Dx and LDCs

Phase 2-Energy Probe-6

Ref: Exhibit B, Tab 4, Schedule 5 -Flow of Costs Diagram

a) Please provide a version with the individual and aggregate allocations of the Contribution(s) per TSC Section 6.5.3–6.5.11 per approach in chart above HO Dx and embedded LDCs:

- **Essex Powerlines Corporation**
- **E.L.K. Energy Inc.**
- **Entegrus Powerlines Inc.**

b) Please provide a version of chart showing embedded LDCs secondary downstream allocation to LDC's Customer Classes, including specifically New Large Customers (Greenhouse Growers) as shown in Chart.

c) Please provide a tabulation of the approximate Rate Impacts for existing customer classes of HO Dx and embedded LDCs

Benefit/Cost Analyses

Phase 2-Energy Probe-7

Ref: No Reference

If the Large New Customers reduce load (CDM) and/or meet Load Growth with combined heat and power generation, then what will the cost consequences to these customers:

- **HO Dx Customer**
- **LDC customers**
- **Transmission Pool Customers**

Please delineate your responses to: if this happens prior to the 2018/19 in-service date; in the first 5 years; in the first 10 years; and beyond 10 years

Phase 2-Energy Probe-8

Ref: Exhibit B, Tab 4, Schedule 5, Page 2 of 8
"In turn, each distributor will need to further apportion its share of the capital contribution within its own service area. Each distributor will perform an economic evaluation for each of its customers in the General Service, Sub-Transmission or equivalent rate class that requests a new or expanded connection ("new large customer"). The distributor will also perform an additional economic evaluation for its ratepayers generally. The results of these economic evaluations, performed based on the methodology set out in Appendix 5 of the TSC, will determine the proportion of the capital contribution that each new large customer and ratepayers of that distributor will be required to pay."

Please provide a detailed breakdown of the capital contribution from the different rate classes of each of the different distributors.

Phase 2-Energy Probe-9

Ref: Exhibit B, Tab 1, Schedule 4, Page 1 of 6

Preamble: **Section 6.3.8 of the TSC says that the transmitter can't ask customers for a capital contribution for capacity that is not "attributable to that customer."**

In Exhibit B, Tab 1, Schedule 4, Page 1 of 6 the Applicant states that the "growth in demand in this [Kingsville-Leamington] subsystem is largely attributable to projected growth in the greenhouse sector (as indicated by customer connection requests and the current outlook for expansion of existing greenhouse operations) and anticipated growth from new operations."

Please provide a detailed breakdown of the future demand growth from the greenhouse sector compared to residential and other rate classes.

Phase 2-Energy Probe-10

Ref: Exhibit B, Tab 1, Schedule 4, Page 1 of 6

Preamble: The Board has ruled on the beneficiary pay principal, but it seems that the main beneficiaries of this project are distributed generators and the greenhouse sector.

a) **Please provide a detailed list of the expected future distributed generation greenhouse projects in the Kingsville-Leamington area.**

b) **Please provide an estimate on the rate impacts to these rate classes as a result of the project.**

Phase 2-Energy Probe-11

Ref: Exhibit A, Tab 1, Schedule 5, Page 10, Figure 3

Preamble: Exhibit A, Tab 1, Schedule 5, Page 10, Figure 3 shows historical demand in the Kingsville-Leamington area has been declining in recent years.

Please provide evidence or the assumptions behind any evidence on why demand is expected to increase over the planning period.

Phase 2-Energy Probe-12

Ref: Exhibit B, Tab 4, Schedule 5, Page 5 of 8

Please detail any planned new distributed generation facilities for the region over the planning period and what impact they will have on the project.

Phase 2-Energy Probe-13

Ref: Exhibit B, Tab 4, Schedule 5, Page 5 of 8 &
Exhibit B, Tab 1, Schedule 5, Page 13

Preamble: **In Exhibit B, Tab 4, Schedule 5, Page 5 of 8, the Applicant states that "greenhouse growers in the region have indicated strong interest in developing distributed generation through investments in combined heat and power generation."**

And the OPA states in Exhibit B, Tab 1, Schedule 5, Page 13: "In addition to the distributed renewable generation described above, Great Northern Tri-Gen is an 11 MW gas-fired combined heat and power ("CHP") generation station located at Kingsville TS. In addition to producing electricity and heat, Great Northern Tri-Gen also produces carbon dioxide for use in greenhouse operations. The recent growth in the Kingsville Leamington greenhouse industry has led to local interest in this type of CHP application."

a). **Please provide any evidence supporting the "local interest" in this type of distributed generation.**

b) **Please provide any forecasts for the amount of new distributed generation expected over the planning period.**

c) **Can you explain what would happen if load growth is met with distributed generation over the first five years of the planning period? Ten years? And beyond 10 years?**