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December 4, 2008

VIA EMAIL & 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-2008-0272 Hydro One Networks
2009-2010 Transmission Rates Case
Energy Probe Interrogatories**

Pursuant to the Ontario Energy Board's Procedural Order # 1, issued November 14, 2008, Energy Probe Research Foundation (Energy Probe) is hereby filing its Interrogatories of Hydro One Networks in the EB-2008-0272 proceeding. An electronic version of this communication will be provided in PDF format.

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

Yours truly,

David S. MacIntosh
Case Manager

cc: Glen MacDonald, Hydro One Networks Inc. (By email)
Donald H. Rogers, Rogers Partners LLP (By email)
Peter T. Faye, Counsel to Energy Probe (By email)
Parties of Interest (By email)

Energy Probe Research Foundation 225 BRUNSWICK AVE., TORONTO, ONTARIO M5S 2M6

Phone: (416) 964-9223 Fax: (416) 964-8239 E-mail: EnergyProbe@nextcity.com Internet: www.EnergyProbe.org

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 a review of an application filed by Hydro One Networks Inc. under section 78 of the *Ontario Energy Board Act, 1998*, seeking changes to the uniform provincial transmission rates.

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

December 4, 2008

**ONTARIO HYDRO NETWORKS INC.
CHANGES TO THE UNIFORM PROVINCIAL TRANSMISSION RATES
EB-2008-0272**

**ENERGY PROBE RESEARCH FOUNDATION
INTERROGATORIES**

Interrogatory # 1

Ref: Exhibit A, Tab 13, Schedule 2

This reference describes the applicant's changes to policies. Please provide copies of the following policies:

- i) First Nations and Métis Policy**
- ii) Corporate Procedure for Retention of Consultants**
- iii) Corporate Charge Card Procedure**
- iv) Employee Business Expense Policy & Procedure**
- v) Employee Travel and Accommodation Policy**
- vi) Major Fixed Asset Retirement/Surplus Reporting Procedures**
- vii) Purchase of Low Value Non ACL External Contractors Services & Materials (Local Purchase Contract)**

Interrogatory # 2

Ref: Exhibit A, Tab 15, Schedule 1, pages 9 – 10

The tables on these pages compare Hydro One reliability performance to the CEA "composite". Please explain:

- a) How many other transmission utilities are included in the composite?**
- b) How many other transmission utilities do not participate in the CEA study?**
- c) How are the composite performance numbers calculated?**

Interrogatory # 3

Ref: Exhibit A, Tab 15, Schedule 1, page 13

Table 3 compares reliability data for Hydro One and US Transmission utilities. Hydro One performance in the 100-161 kV class is mostly in the third and fourth quartiles.

- a) Please provide an analysis of the reasons for outages on the 115 kV system.**
- b) Why is the SAIFI for sustained outages worse than for momentary outages?**
- c) In the DP Outages per 100 mi. Hydro One is in the second quartile. What causes the SAIFI numbers then to be in the 3rd and 4th quartiles?**
- d) What factors cause T-SAIDI to be in the 4th quartile?**
- e) How much of the 230 kV system is also radial and rural? How does reliability performance for that part of the 230 kV system compare to the 115 kV system?**
- f) What actions can Hydro One take to improve reliability of its 115 kV system?**

Interrogatory # 4

Ref: Exhibit A, Tab 16, Schedule 2, Attachment 1

This attachment is a compensation and productivity comparison study of Hydro One by Mercer and Wyman. Page 12 discloses that the compensation survey reflects only 47% of Hydro One employees.

- a) What was the breakdown of the other 53% of employees not included in the study by employee grouping as used in the study?**
- b) Was any analysis (statistical or otherwise) performed to determine how the other 53% of employees not represented in the study would have affected the results had they been included?**

Interrogatory # 5

Ref: Exhibit A, Tab 16, Schedule 2, Attachment 1

This attachment is a compensation and productivity comparison study of Hydro One by Mercer and Wyman. The survey results reveal on page 15 that Hydro One compensation on a weighted average basis is 17% higher than the median of survey participants. This is attributed to legacy collective agreement wages, pensions and benefits.

- a) Legacy plans are reported as having been negotiated prior to Hydro One's formation in 1998. Since 10 years have now passed since its formation, does Hydro One have a plan to reduce or eliminate the effect of legacy collective agreement wage effects on its compensation levels?**
- b) Legacy pension benefits are noted as not available to new hires in the Management and Society groups. What is Hydro One's plan to treat PWU workers similarly for pension purposes?**
- c) Legacy benefit plans are noted as not available to new hires in the Management group. What is Hydro One's plan to treat PWU and Society workers similarly for benefit purposes?**

Interrogatory # 6

Ref: Exhibit A, Tab 16, Schedule 2, Attachment 1

This attachment is a compensation and productivity comparison study of Hydro One by Mercer and Wyman. Table 5 on page 17 discloses comparative compensation data for non represented employees.

None of these positions appears to be in the executive management group of the company. Why was the executive group not included in the study?

Interrogatory # 7

Ref: Exhibit A, Tab 16, Schedule 2, Attachment 1

This attachment is a compensation and productivity comparison study of Hydro One by Mercer and Wyman. Table 7 on page 19 discloses comparative compensation data for PWU represented employees in the study.

Although some argument might be made for over paying highly skilled positions, at least five of the positions in the table do not appear to fall into that category. Specifically, Service Dispatcher, Drafter II, Stock keeper, Data Entry Clerk, and Meter Reader positions would not seem to require extended apprenticeships or unusual skills. What is Hydro One's plan to bring compensation for these positions more in line with comparators?

Interrogatory # 8

Ref: Exhibit A, Tab 16, Schedule 2, Attachment 1

This attachment is a compensation and productivity comparison study of Hydro One by Mercer and Wyman. Page 25 presents the work output measures used in the productivity part of the study. One of these, "MWhrs sold" is reportedly included because it *"is a measure of system requirements and activity required on that infrastructure to deliver energy. It impacts wear on the system and levels of capacity."*

- a) Total Km of line and Total Gross Assets account for the transmission lines and transformer stations making up the transmission system. Why is "MWhrs sold" a relevant measure when these two measures seem to capture all components of the system?**
- b) Does Hydro One base its staffing levels on the volume of "MWhrs sold"? If not, how is employee compensation related to this measure?**
- c) How does the amount of "MWhrs sold" impact "wear on the system"? Does Hydro One schedule any of its maintenance activities on the number of MWhrs sold?**
- d) Would "MWhrs sold" be a measure more relevant to productive use of assets than to employee compensation?**

Interrogatory # 9

Ref: Exhibit A, Tab 16, Schedule 2, Attachment 1

This attachment is a compensation and productivity comparison study of Hydro One by Mercer and Wyman. Page 27 discusses the design of the productivity part of the study. Two of the measures chosen, Gross Fixed Assets and Km of Line, include both Transmission and Distribution components of the company.

- a) Why have Distribution assets and line Kms been included in a study of Transmission productivity?**
- b) What effect would removing the distribution components of the study have on the results?**
- c) Why were other measures such as “Cost per Customer served” and “# of Employees per customer served” not considered?**

Interrogatory # 10

Ref: Exhibit A, Tab 16, Schedule 2, Attachment 1

This attachment is a compensation and productivity comparison study of Hydro One by Mercer and Wyman. Page 30 reports the Key Findings of the Productivity part of the study.

- a) Does “T&D compensation” per measure reported on this page include customer service costs broken out on pages 36 – 40? If yes, how much of T&D total compensation is for customer service functions?**
- b) How much weight has Customer Service productivity been given in the overall conclusion stated on page 2 of the report that *“Examining the mix of indicators leads to the conclusion that Hydro One requires less workforce compensation to generate various units of output.”***
- c) The findings on this page report that Hydro One is “fourth best” out of seven on one measure and “about median” on two others. This seems to say that Hydro One is about median on 3 of the 4 measures. How can this be reconciled with the statement on page 2 of the report that *“All indicators measured ranked better than median (i.e., more productive) except one, which is slightly below median (i.e., less productive).”***

- d) If Hydro One is in fact at median on 3 of 4 productivity measures, is the statement in b) above *“that Hydro One requires less workforce compensation to generate various units of output”* accurate?
- e) If the answer to v) above is “no it is not accurate” is the conclusion appearing at lines 19-21 of page 3 of the schedule that *“Therefore the positive Hydro One productivity results balance Hydro One’s total compensation being above the market median”*, justified?

Interrogatory # 11

Ref: Exhibit C1, Tab 2, Schedule 2, pages 3 – 4

Land Assessment and Remediation (line 26) refers to “*historical contamination located both inside and outside the station fence*”.

- a) What does this contamination consist of?
- b) Does Hydro One have a complete inventory of historical contaminated sites?
- c) How long does Hydro One expect to need to remediate these sites?
- d) What distinguishes “historical contamination” from contamination considered under Environmental Management?

Interrogatory # 12

Ref: Exhibit C1, Tab 2, Schedule 2, page 9

- a) What is Hydro One’s plan for eliminating PCBs from its equipment?
- b) The dangers of PCBs have been known for decades. Why has Hydro One not taken steps over the last 20 years to eliminate them from its system?

Interrogatory # 13

Ref: Exhibit C1, Tab 2, Schedule 2, page 11

- a) What is required to replace “sheet plastic spill containment liners” described at line 2?
- b) How much does a typical containment pit relining cost?
- c) Why does Hydro One leave abandoned oil piping systems in the ground? Why are they left with residual oil in them? What options does Hydro One have for flushing these systems to eliminate residual oil?

Interrogatory # 14

Ref: Exhibit C1, Tab 2, Schedule 2, page 14

Starting at line 23, reference is made to *“An increasing number of power equipment assets, such as power transformers and circuit breakers, are entering their midlife and end of life regions”*.

- a) Figure 1 on page 15 for power transformers appears to show that the number of power transformers entering midlife is remaining constant at about 500. Please explain the apparent contradiction with the statement on page 23.
- b) Figure 2 on page 16 for circuit breakers shows the number of units entering midlife declining in 2008 and 2009 compared to 2007 and the number in 2010 seems to be the same as 2007. Please explain the apparent contradiction with the statement on page 23.
- c) According to Figure 1 on page 15, the number of power transformers in the midlife and EOL categories appears to increase by about 50 units over the period 2007 to 2010 or about 7%. Figure 2 on page 16 shows the number of circuit breakers in the midlife and EOL categories over the same period increasing by about 300 units or 8.6% above the 2007 population. The budget for stations shown in Table 2 of page 5 of the exhibit, however, shows an increase in expenditure of \$22 M in 2010 compared to 2008 levels. This represents about 36% increase. Please explain why such a dramatic increase in expenditures is required to deal with the relatively modest increase in the EOL population and the stable population of midlife power transformers and circuit breakers.

Interrogatory # 15

Ref: Exhibit C1, Tab 2, Schedule 2, page 18

This page references a program called “Cyber Security” which is required by NERC Critical Infrastructure Protection (CIP) Standards.

- a) **When were the NERC standards referred to at lines 1-4 developed?**
- b) **What comparable security program existed at Hydro One prior to the NERC requirements?**

Interrogatory # 16

Ref: Exhibit C1, Tab 2, Schedule 2, pages 27 – 28

Starting at line 6 on page 27 the following statement appears:

“Many ancillary systems are of the same vintage as the power equipment they serve and therefore share the same age demographics as previously discussed for transformer and breaker assets. Consequently, the number of ancillary system assets entering the EOL region in the test years is increasing”

Line 27 on the same page states:

“The spending requirement for test year 2009 is \$18.2 million, which is an increase of 31% over the projected spending in the bridge year 2008. The 2010 spending is \$21.0 million, which is an increase of 15% over the 2009 test year. The increase in test year spending is largely due to the increased maintenance and mid-life refurbishment of ancillary systems moving through their mid-life region.”

- a) **Please provide a chart similar to Figure 1 on page 15 of the schedule showing the number of pieces of ancillary equipment entering midlife and EOL categories.**
- b) **If the age distribution of ancillary systems is similar to power equipment, this would suggest a relatively stable number of components entering midlife and an increase in EOL components of 7-8%. Please explain why required expenditures are 31% higher in 2009 and 51% higher in 2010 than the test year if increases in equipment needing maintenance are only 7-8%.**

Interrogatory # 17

Ref: Exhibit C1, Tab 2, Schedule 2, pages 33 – 34

This section of the schedule describes Vegetation Management requirements for ROW maintenance. Starting at line 11 on page 34 the following statement is made:

“The activities of brush control and line clearing must comply with the new requirements of the NERC Vegetation Management Standard that came into effect during 2006.”

- a) **How did the NERC standard differ from that in effect at Hydro One prior to 2006?**
- b) **How much of the increased cost of vegetation management in 2007 was the result of the NERC standard and how much was attributable to other causes?**
- c) **Why is the Bridge year spending shown in Table 5 on page 33 significantly lower than historic year spending?**

Interrogatory # 18

Ref: Exhibit C2, Tab 3, Schedule 1, page 1

Reference is made on this page to a “six year apprenticeship” for Regional Lines Maintainers.

- a) **Please explain why this apprenticeship is two years longer than a typical distribution utility line maintainer.**
- b) **Are all Hydro One line maintainers equally qualified to work on both distribution and transmission line voltages?**
- c) **If not, are there wage and benefit differences between those who work on transmission lines and those who work only on distribution lines?**

Interrogatory # 19

Ref: Exhibit D1, Tab 1, Schedule 1, page 3

Table 2 on this page shows fixed asset retirements declining over the test period. This appears to be at odds with the reasoning offered for increased maintenance costs in Exhibit C1, Tab 2, Schedule 2, page 14 that “An increasing number of power equipment assets, such as power transformers and circuit breakers, are entering their midlife and end of life regions”.

Please explain the apparent inconsistency that more equipment reaching end of life does not result in increased asset retirements.

Interrogatory # 20

Ref: Exhibit D1, Tab 2, Schedule 1, Attachment A

Figure 4.1 on page 21 of this report shows the Health Index Results for Power Transformers. Figure 4.2 on page 24 shows the Health Index Results for Air Blast Breakers. Those falling into the “Good” and “Very Good” condition categories comprise respectively 9% and 87% of the total population of transformers. The comparable figures for Air Blast Breakers are 27% and 67%. Recommended maintenance for equipment in these categories is shown on page 10 of the report as “Normal inspection and maintenance”. The fact that most equipment in this category (96% for Power Transformers and 94% for Air Blast Breakers) requires only normal maintenance appears to be inconsistent with the requirement in Exhibit C1, Tab 2, Schedule 2, for increased maintenance of these devices over the test period.

- a) Please explain this apparent inconsistency.**
- b) Does Hydro One have studies or analyses that correlate maintenance requirements for major station components such as transformers and breakers with age of these components? If so, please provide them. If not what is the basis for correlating maintenance requirements with age of equipment?**

Interrogatory # 21

Ref: Exhibit D1, Tab 2, Schedule 1, Attachment A

On page 23 the following statement is made in the section devoted to Oil Circuit Breakers:

“Since 2004 Networks has had a program to replace all of the OCBs on its system which is an overriding strategy driven by technical obsolescence, that does not involve the use of asset condition assessment or a health index calculation. In such cases it is in keeping with industry best practices to not conduct Asset Condition Assessments where asset sustainment is not considered to be an investment driver.”

- a) Please confirm that this is an accurate statement.
- b) What proportion of circuit breakers is being replaced each year?
- c) When does Hydro One expect to have the replacement program completed?
- d) If all OCBs are scheduled for replacement, how should this be reconciled with the requirement for increased maintenance of OCBs proposed in Exhibit C1, Tab 2, Schedule 2?

Interrogatory # 22

Ref: Exhibit D1, Tab 3, Schedule 2, page 18

Table 4 shows replacement of Air Blast Breakers at Nanticoke TS. In light of the Government’s plan to shut down Nanticoke GS and the recent approval from the Ontario Energy Board of Hydro One’s application to construct a new 500 kV line from Bruce to Milton:

- a) What, if any, are the expected impacts on Nanticoke TS of these two developments?
- b) Has Hydro One considered these impacts in its capital spending plans for Nanticoke TS?

Interrogatory # 23

Ref: Exhibit D1, Tab 3, Schedule 2, page 5

Table 2 lists the capital expenditures for various station components. The most significant increases occur in the first three categories of Circuit Breakers, Station Re-investment, and Power Transformers. Summing these categories it appears that the Bridge Year expenditure would be \$116 M, the 2009 test year expenditure would be \$127 M and the 2010 test year would be \$126 M. These amounts are significantly greater than each of the historical years in which expenditures were \$49 M in 2005, \$50 M in 2006 and \$68 M in 2007.

Please explain why capital expenditures to replace EOL power equipment over the bridge and test years appears to be doubling compared to historical years while increases in power equipment reaching EOL appear to be in the 30% range for circuit breakers (per figure 4 page 11) and the 20% range for transformers (per figure 6 page 21).

Interrogatory # 24

Ref: Exhibit D1, Tab 3, Schedule 2, page 36

This page describes Cyber Security Readiness requirements. Expenditures are forecast to be mainly in 2008 with the balance of spending required to comply with NERC standards occurring in 2009. Spending on Cyber security in 2010 amounts to \$6.4 M but appears to be related to FERC proposals.

- a) What do the Cyber Security readiness requirements consist of?**
- b) If new systems are needed, do they replace or augment existing systems?**
- c) Is Hydro One subject to FERC requirements in the area of cyber security?**
- d) If not, why would Hydro One elect to exceed NERC requirements?**

Interrogatory # 25

Ref: Exhibit D1, Tab 3, Schedule 2, page 52

Table 13 provides details of the Overhead Lines Refurbishment and Component Replacement program. Removal Cost is subtracted from the total cost to arrive at the net Capital Cost.

- a) Please explain why removal costs are not considered part of the Capital Cost of a project.**
- b) Where are removal costs charged? Where do they show in the evidence?**

Interrogatory # 26

Ref: Exhibit D1, Tab 3, Schedule 3, page 14

Project D4 is to modify the Bruce Special Protection System in order to accommodate return to service of Bruce Units until the new 500 kV circuits to Milton are in service.

- a) When are the Bruce units referenced scheduled to return to service?**
- b) Is the preparation work on these units to return to service on schedule?**
- c) If the units do not return to service before the new 500 kV line is in place, will the cost of modifying the Special Protection System be stranded?**
- d) If the answer to iii) is Yes, can Hydro One recover its costs for this project from Bruce Power?**

Interrogatory # 27

**Ref: Exhibit D2, Tab 2, Schedule 3
Exhibit D1, Tab 3, Schedule 3**

Project D38 in the first reference is an Investment Summary Document for the connection of the Lower Mattagami upgrading projects of OPG. The net cost to Hydro One is noted as \$19.0 M in Table 5 on page 36 of Exhibit D1, Tab 3, Schedule 3. This project is currently under environmental assessment review.

- a) Hydro One has budgeted \$6.9 M to be spent in 2009. How has Hydro One anticipated the uncertainty of the outcome of the Environmental Assessment process currently under way for the Lower Mattagami projects?**
- b) If the Lower Mattagami projects are not approved in the EA process, what recourse does Hydro One have to recover its costs on the transmission connection?**