EB-2012-0064

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 June 1, 2012, May 1, 2013 and May 1, 2014.

TECHNICAL CONFERENCE QUESTIONS OF ENERGY PROBE RESEARCH FOUNDATION ("ENERGY PROBE")

November 19, 2012

EB-2012-0064

TORONTO HYDRO ELECTRIC SYSTEM LIMITED

2012, 2013 and 2014 IRM RATE ADJUSTMENTS and ICM RATE ADDERS

ENERGY PROBE RESEARCH FOUNDATION
TECHNICAL CONFERENCE QUESTIONS

Issue 1.2 Is THESL's proposal that the Board approve under the IRM framework separate and successive ICM revenue requirements and corresponding distinct electricity distribution rates and rate adders for each of the 2012, 2013 and 2014 rate years appropriate?

1.2 Energy Probe TCQ # 1

Ref: Updated Evidence Tab 2, Addendum Pages 13/14, Tables 1&2
Updated Evidence Tab 4, Schedule A, Appendix1, Page 1 Summary of Capital Program
Updated IRR Tab 6E, Schedule 11-16, Parts a), b)

a) Please provide in tabular form the current forecast of 2012 YTD and forecast and 2013 forecast CAPEX by major category per the first reference.

a) Please provide a schedule based on Reference 2 that shows, for each category of capital cost, the forecast amount of In- Service Additions (ISAs - additions to Notional Rate Base) by quarter for 2012 YTD and estimate, 2013 including carryover into 2014.

b) Please provide the calculation of the notional rate base (opening and closing) associated with the projects for 2012, 2013 and 2014 (using 2011 approved RB as the base).

c) Please reconcile the response to parts a)-c) to the In Service capital forecasted in the second reference –VECC-16.

Issue 2.2 Has THESL provided sufficient evidence including consultant reports, business cases and consideration of alternatives, for the proposed capital projects to adequately justify them?

2.2 Energy Probe TCQ # 2

Ref: Tab 6F, Schedule 7-11

The response to Energy Probe # 12 provides typical notice documents sent to customers affected by replacement of underground cable and the rebuilding of back lot overhead lines with front lot underground cables.

The Manager's summary also references consultation with customers on projects in lines 16-20, Page 9 of Tab 2 which states "In addition, the infrastructure renewal work undertaken by THESL requires significant advance notice and consultation with the residents in the areas affected by THESL's work. THESL undertakes this consultation intensively, well in advance of the commencement of construction specifically for the purpose of minimizing disruptions to residents and obtaining input to the design of the various projects".

Please describe the customer consultation process undertaken in rear lot conversion projects and replacement of direct buried underground cable projects in residential subdivisions.

2.2 Energy Probe TCQ # 3

Ref: Tab 6F, Schedule 7-24

a) **Table 2 shows Option 1 (performing reactive work on the feeder) is the same cost as Option 3 (doing the replacement work on a planned basis). Is this correct as the impression created in the evidence is that reactive work is more costly than planned work?**

b) **The material cost for all cable replacement options is the same at $13.41/metre. Is this just the cost of cable and not the cost of ductwork and concrete for option 4?**

c) Repair due to outage costs for Option 3 show total cost per metre equal to the total cost of repairing the faulted cable ($6,166.04). Option 4 shows a comparable cost of repairing a fault in ductbank of $6,171.12 but this is then broken down to a per metre cost of $61.71. Why is the per metre cost of Option 4 shown as so much less than Option 3 when the overall cost to deal with the cable failure is about the same? Is the per metre cost of repairing the cable in ductbank used anywhere in the FIM model? If yes, please explain how it is used.

d) The electrical labour cost in Option 5 is shown as $8,912.08 per segment and footnote 1 states that this includes "grounding and abandoning existing direct buried cable, switching, conductor stringing, primary risers and pole framing and guying". Is the per segment length 100 m as in the underground options or is it the 38 m shown in the first column for material cost? Please breakdown the electrical labour cost into the components shown in note 1, i.e. grounding and abandoning existing direct buried cable, switching, conductor stringing, primary risers and pole framing and guying. Is the inclusion of "primary risers" correct or should this be "secondary risers"? If the former, please explain how primary risers figure in an overhead system.

e) The civil cost in Option 5 is shown as $24,203.30 per metre. Is this correct? If it is actually a per segment cost what is the length of the segment? Please break down the $24,203.30 into the activities shown in note 2, i.e. Splice pits for grounding and abandoning direct buried cable, tree trimming, pole holes, 45' poles, delivery of poles to site and pole installation and anchoring.

f) Repair work due to outage in Option 5 shows total cost per outage of $5,625.86 or $56.26 per metre. Footnote 6 states that this is based on "a typical outage caused by pole damage due to a vehicle". Is this intended to mean that the typical outage on overhead residential is caused by a vehicle striking a pole or is it intended to mean that when such a collision does occur, the typical cost is $5,625.86? Is the per metre cost of repair work used anywhere in the FIM model. If yes, please explain how it is used.

g) What is the frequency of outages involving vehicles striking poles in residential overhead subdivisions compared to the frequency of overhead outages due to other causes of overhead outages in subdivisions such as tree contacts, animal contacts, lightning strikes, human interference etc.?

2.2 Energy Probe TCQ # 4

Ref: Tab 6F, Schedule 7-28

Figure 1 shown on page 2 of the IRR shows "outages/m" on the vertical axis. Over what period of time does the frequency number refer to, e.g. Is it number of outages per metre in a year?

2.2 Energy Probe TCQ # 5

Ref: Tab 6F, Schedule 7-33

a) **The response to part c) states that THESL does not track differentiation between front and rear lot overhead for public electrical contacts. The response to part a) states that the risk of proximity to energized equipment in back lot construction is greater than for front lot O/H. If contacts are not tracked between the two types of overhead systems how does THESL know that back lot risks are higher?**

b) **The chart in part c) shows a steady decline in overhead system contacts particularly over the period 2009 – 2012. What are the factors that are contributing to this lower contact trend?**

2.2 Energy Probe TCQ # 6

Ref: Tab 6F, Schedule 7-33 and 7-34

Lines 20 to 23 on Page 1, Schedule 7-33 state that THESL's system is comprised of approximately 15,100 km of overhead wires and approximately 10,900 km of underground wires. This would translate into approximately 50% more overhead than underground.

The chart on Page 2 of Schedule 7-34 shows outage durations for the OH and UG systems for the years 2006 – 2011. Summing the figures in each row results in total OH minutes interrupted of about 720,000 and total UG minutes interrupted of about 701,000 despite the fact that there is about 50% more overhead than underground in the system. This would appear to suggest that the overhead system is much more reliable than the underground system at least in terms of duration of outages. Please comment.

2.2 Energy Probe TCQ # 7

Ref: Tab 6F, Schedule 7-35

The Navigant survey found that few other utilities were relocating rear lot overhead. Please explain why the Board should find THESL's plans to convert rear lot overhead to front lot underground prudent if THESL has not investigated why other utilities do not find it necessary to due likewise.

2.2 Energy Probe TCQ # 8

Ref: Tab 6F, Schedule 7-36

The response to part c) sets out the Municipal Consent Requirements for overhead lines on public road allowance. Please provide an example of an overhead line permit application that was submitted to this approval process including the documentation provided to the City in the application.

2.2 Energy Probe TCQ # 9

Ref: Tab 6F, Schedule 7-39

The chart on page 2 of the IRR shows the upfront project cost of replacing existing rear lot overhead with front lot overhead at $57.1 M. The comparable cost for replacing rear lot overhead with front lot underground is $66.14 M.

Please provide detailed cost breakdowns of the estimates for OH and UG including any assumptions that have been used.

2.2 Energy Probe TCQ # 10

Ref: Tab 6F, Schedule 7-43

The response to part a) states that non asset related risk is compiled at the feeder level then applied to specific rear lot subdivisions on a per metre of replacement length basis.

a) **Is the same true for front lot underground NAR, i.e. is NAR compiled at the feeder level then applied to the front lot underground system on a per metre length of the underground system?**

b) If yes, please explain how the projected non-asset risk cost of underground front lot (NPV) in table A3 on page 72 of Tab 4, Schedule B6 can be $0.

c) If not, please explain why the NAR cost for back lot overhead is assessed differently than for front lot underground.

2.2 Energy Probe TCQ # 11

Ref: Tab 6F, Schedule 7-52

a) Page 5 of this standard design practice for Rear Lot Conversions notes that joint use partners on rear lot poles may not decide to participate in relocating their plant to the new front lot trench. In that case, the poles will be left in the backyard and the other joint use partners would continue to serve customers from that location. In THESL's experience to date, what percentage of rear lot conversion projects result in the poles being left in place to accommodate Bell or other joint use partners decision not to relocate to front lot? How many projects is that percentage based on?

b) Appendix K of the schedule is a Standard Design Practice Amendment allowing designers to implement a "Hybrid Overhead Design Option". In how many projects has this option been used?

Issue 2.4 Is THESL's proposal for an alternative to the standard treatment of the calculation of the ICM threshold together with the Board's practice of exempting certain ICM-approved capital expenditures from the application of the half year rule appropriate?

2.4 Energy Probe TCQ # 12

Ref: Updated IRR Tab 6C, Schedule 7-4, Page 2
Updated Evidence Tab 2, Addendum Pages 13/14, Tables 1 & 2
Updated/Corrected Tab 2, Appendix 3, Comparative Revenue Requirements Analysis
Updated IRR Tab 6E, Schedule 11-16, Parts a), b)

There are two proposed methodologies to estimate the Revenue Requirements related to the ICM, termed by THESL Standard and Alternative. This TCQ confirms the differences and requests a second alternative based on forecast In Service Additions for 2012 and 2013.

a) **Confirm the forecast CAPEX spend is still the current amount for 2012 and 2013.**

b) **Reconcile the CAPEX amounts shown in the first reference with Tab 2 Addendum Pages 13/14 Tables 1&2.**

c) **Assume that In-Service Additions (ISAs) by year are as shown in VECC-16 and recast the Table in reference #1 with amended additions (line 3) including approved actual 2011 and forecast carryover into 2014.**

d) **Please provide a MS Word or PDF Version of the Notes to Tab 2 Appendix 3.**

e) **Please provide a calculation of the 2011-2013 Revenue Requirements using the methodology in the third reference BUT using the latest forecast of CAPEX and ISAs provided in the references and responses to parts a)-c).**

f) **Please provide chart(s) showing the CAPEX, ISAs, notional Rate Base (average) and Revenue Requirements from 2011-2013.**

g) **Please provide the Rate Base and Revenue Requirement impact of a delay of $10 million in scheduled ISAs for 2013.**

2.4 Energy Probe TCQ # 13

Ref: Managers Summary Updated and Corrected Tab 2, Page 13, Table 1
Updated Tab 4, Schedules E1.1-1.4 and E2.1-2.4
Updated IRR Tab 6L, Schedule 7-56 and Appendix A
Updated IRR Tab 6H, Schedule 11-115, Appendices A-D

a) **For 2012 and 2013 Confirm and summarize in tabular form the following:**
   i. **The ICM threshold**
   ii. **The actual YTD and Forecast 2012 CAPEX and ISA amounts.**
   iii. **The 2013 forecast CAPEX and ISA amounts**
   iv. **The Revenue Requirement increment associated with the IRM Formula**

b) **Starting with the estimated Revenue Requirements for the Standard and Alternative methods per the first Reference Table 1, please provide details of the derivation of the 2012 and 2013 rate adders for each class. Reconcile to the Tab 3 Rate Schedules.**

c) **Please provide a Summary Table that shows by class the amounts collected by the ICM Rate Adders for 2012-2013:**
   i. **Using the Standard Approach**
   ii. **Using the Alternative Approach**

d) Please provide a version using CAPEX and ISAs provided in response to Energy Probe TCQ # 11.

2.4 Energy Probe TCQ # 14

Ref: Updated Tab 4 Schedules E1.1-1.4 and E2.1-2.4
IRR Tab 6G, Schedule 7-53

a) Using the estimated annual and total amounts to be collected from each class due to the ICM rate adders under each approach (Standard, Alternative 1 (THESL) and Alternative 2 (ISA per Energy Probe) , please estimate for each method, the "true up" related to Account 1508, that will required for each class at the time of the next COS proceeding.

b) Please provide notes on all assumptions (especially about 2014) and supporting calculations. Reconcile the notional Rate Base amounts to those shown in the response to Updated Tab 6C, Schedule 7-4 (Energy Probe 4).