

September 14, 2012

BY COURIER (2 COPIES) AND EMAIL

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Ontario Energy Board
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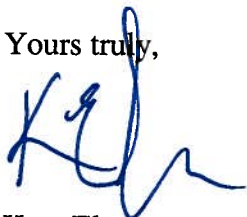
Dear Ms. Walli:

**Re: Pollution Probe – Interrogatories
EB-2012-0064 – Toronto Hydro 2012-2015 Rates**

Enclosed please find Pollution Probe's interrogatories for the above matter.

Please do not hesitate to contact me if anything further is required.

Yours truly,



Kent Elson

Encl.

Cc: Applicants and Intervenors per Procedural Order No. 1

**Toronto Hydro 2012-2015 Rates
EB-2012-0064**

Pollution Probe Interrogatories for Toronto Hydro

September 14, 2012

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-Pollution Probe-1: Reference: Tab 4, Schedule B17, Appendix 3, page 7, Table 1

Please provide the annual non-coincident demands of the Downtown Core for each year from 2000 to 2010 inclusive. Please break out the demands by each of the five transformer stations; and for each transformer station please break-out the demands by rate class.

2.2-Pollution Probe-2: Reference: Tab 4, Schedule B17, Appendix 3, page 7, Table 1

Please provide the annual coincident demands of the Downtown Core for each year from 2000 to 2011 inclusive. Please break out the demands by each of the five transformer stations and for each transformer station please break out the demands by rate class.

2.2-Pollution Probe-3: Reference: Tab 4, Schedule B17, Appendix 3, page 7, Table 1

Please provide the forecast coincident demands of the Downtown Core for each year from 2012 to 2021. Please break out the demands by each of the five transformer stations and for each transformer station please break out the demands by rate class.

2.2-Pollution Probe-4: Reference: Tab 4, Schedule B17, Appendix 3, page 3

Please provide a precise description of the service boundaries of each of the five downtown transformer stations, for example by listing the portions of the streets that constitute the boundaries between the service areas.

2.2-Pollution Probe-5: Reference: Tab 4, Schedule B17, Appendix 3, page 3

Please provide an Excel spreadsheet with the demands of each of the five downtown transformer stations for every five minute interval in 2011.

2.2-Pollution Probe-6: Reference: Tab 4, Schedule B17, Appendix 3, page 10, Table 4

Please provide all of the reports and analyses in Toronto Hydro's possession that justify its load forecasts for each of the downtown transformer stations.

2.2-Pollution Probe-7: Reference: Tab 4, Schedule B17, Appendix 3, page 10, Table 4

Has Toronto Hydro estimated the potential for incremental cost-effective energy efficiency and demand response options to reduce the demands of the downtown transformer stations between 2012 and 2026? If yes, please provide these estimates for each year from 2012 to 2026 inclusive and please break out the results by the service areas of each of the five transformer stations and for each transformer station please break out the demands by rate class.

Please also provide the reports and analyses that support your estimates.

2.2-Pollution Probe-8: Reference: Tab 4, Schedule B17, Appendix 3, page 17

According to the Navigant Business Case Analysis:

“The results of the study indicated significant technical potential for DG in Toronto, but amounts likely to be installed as uncertain. Estimates of the potential market penetration for customer-connected distributed generation in Central and Downtown Toronto ranged from 140 MW in the medium term to more than 550 MW in the long-term....

One of the key findings of these studies is the difficulty of siting DG in dense downtown load areas, particularly on secondary grid networks..... The ability to install rotating devices (e.g., synchronous generators) is limited by fault current limits, and by the likely de-sensitization of network protectors, which are not designed to accommodate generators.”

After Hydro One has completed its short-circuit upgrades at its Leaside, Hearn and Manby Transformer Stations, how many megawatts (MW) of natural gas-fired generation capacity will it be technically possible to install in the Downtown Core? Please break out this estimate according to the service areas of each of the five downtown transformer stations.

2.2-Pollution Probe-9: Reference: Tab 4, Schedule B17, Appendix 3, page 17

Please describe Toronto Hydro’s programs, budgets and timetables to increase the amount of natural gas-fired generation capacity that can be installed in the Downtown Core. Please quantify the incremental amount of natural gas-fired generation capacity (MW) that will be able to be installed in the Downtown Core in each year between 2012 and 2021 as a result of Toronto Hydro’s actions. Please break out your incremental capacity estimates by year and for the service areas of each of the five downtown transformer stations.

2.2-Pollution Probe-10: Reference: Tab 4, Schedule B17, Appendix 3, pages 10 & 17

According to the Navigant Business Case Analysis:

“The results of the DG study indicate there is considerable uncertainty that customers will install DG in an amount sufficient to back up Windsor or to defer station capacity needed to serve downtown Toronto.”

Please provide your estimates of the amount of the incremental natural gas-fired generation capacity that would be needed, in each year from 2017 to 2026 inclusive, to back up Windsor and defer station capacity needed to serve downtown Toronto.

2.2-Pollution Probe-11: Reference: Tab 4, Schedule B17, Appendix 3, page 17

Please describe Toronto Hydro’s actions to persuade the Ontario Power Authority to contract for natural gas-fired distributed generation capacity to back up Windsor and to defer the need for additional transformer station capacity to serve downtown Toronto. Please provide copies of all your correspondence with the OPA on this issue.

2.2-Pollution Probe-12: Reference: Tab 4, Schedule B17, Appendix 3, page 17

Would Toronto Hydro be willing to own and operate natural gas-fired generation capacity in downtown Toronto to back up Windsor and to defer the need for new transformer station capacity, if the Ontario Energy Board were to permit the inclusion of these assets in its rate base? If no, please explain why not.

2.2-Pollution Probe-13: Reference: Tab 4, Schedule B17, Appendix 3, page 17

Has Toronto Hydro had any discussions with the City of Toronto regarding the City of Toronto owning such generation, with Toronto Hydro being responsible for operation and maintenance? Have there been any similar discussions held with Enwave? If yes, please provide copies of all of your correspondence with the City of Toronto and/or Enwave on this issue.

2.2-Pollution Probe-14: Reference: Tab 4, Schedule B17, Appendix 3, page 11

According to the Navigant Business Case Analysis:

“The greatest outage risk to customers in downtown Toronto is a catastrophic outage, such as the loss of multiple transmission supply lines...” (see Tab 4, Schedule B17, Appendix 3, page 11)

According to the Ontario Power Authority’s *Integrated Power System Plan*:

“An extreme event resulting in a Leaside station loss would result in the isolation of the Leaside system from the rest of the network for potentially several days....This leaves about 300 MW of load that would be unsupplied and rotating outages for this load would be required.”

(see EB-2007-0707, Exhibit E, Schedule 5, page 21)

Please fully describe Toronto Hydro's programs and budgets to eliminate or mitigate the risk of unsupplied load in Toronto in the event of the loss of Hydro One's Leaside Transformer Station.

2.2-Pollution Probe-15: Reference: Tab 4, Schedule B17, Appendix 3, page 11

Please provide your best estimate of the number of megawatts (MW) of diesel back-up generating capacity in the downtown core. Please provide a break-out of your estimate according to the service areas of each of the five downtown transformer stations.

2.2-Pollution Probe-16: Reference: Tab 4, Schedule B17, Appendix 3, pages 15 & 16

Please state the number of *peaksaver* and *peaksaver plus* customers in the service areas of each of the five downtown transformer stations in 2011 and during the summer of 2012. Please state the days during 2011 and 2012 when these customers were curtailed and please provide for each day the resulting reductions in the demands of a) *peaksaver*; and b) *peaksaver plus* customers for each of the five downtown transformer stations.

2.2-Pollution Probe-17: Reference: Tab 4, Schedule B17, Appendix 3, pages 15 & 16

Please state the potential number of *peaksaver* and *peaksaver plus* customers in the service areas of each of the five downtown transformer stations.

2.2-Pollution Probe-18: Reference: Tab 4, Schedule B17, Appendix 3, pages 15 & 16

Please provide a break-out of the number of the Ontario Power Authority's ("OPA") non-residential demand response program participants (e.g., DR1, DR2, DR3) in the service areas of each of the five downtown transformer stations in 2011 and the summer of 2012. Please state the days during 2011 and 2012 when these customers were curtailed and please provide for each day the resulting reductions in demand for each of the five downtown transformer stations.

2.2-Pollution Probe-19: Reference: Tab 4, Schedule B17, Appendix 3, pages 15 & 16

Has Toronto Hydro requested funding from the OPA for incremental conservation and demand management programs to defer the need for new transformer station capacity in downtown Toronto? If yes, please provide copies of all your correspondence with the OPA on this issue. If no, please explain why not.

2.2-Pollution Probe-20: Reference: Tab 4, Schedule B17, Appendix 3, pages 10, 11 & 29

According to the Navigant Business Case Analysis:

“Equally important is the compelling need to change out obsolete and heavily loaded switchgear busses at Windsor. One of the primary reasons new station capacity is needed downtown is to provide back-up support while switchgear is sequentially removed and upgraded at Windsor. Several of the busses at Windsor will soon be overloaded. Table 5 presents Windsor bus load forecast, indicating overloads by 2014. Because of the grid network configuration and load location, further balancing of load among the busses is difficult.” (pages 10 & 11)

“Current Conservation and Demand Management (CDM) programs will not defer the need for additional station capacity in downtown Toronto. Accelerated efforts and targeted CDM also will not materially defer the need for station capacity in downtown Toronto. A large DG unit with firm capability could defer the need for new capacity; however, there is no indication at this time that firm DG in amounts needed to meet capacity deficits will be installed to prior to need dates, nor does it provide the back-up needed to replace switchgear at Windsor.” (page 29)

According to Table 4 of the Navigant Business Case Analysis, the peak demand at Windsor in 2011 was 304 MW.

How long would it take to replace a switchgear bus at Windsor? How many MW of capacity would be lost while a switchgear bus is being replaced? How many MW of conservation and demand management or distributed generation is needed to provide back-up when a switchgear bus at Windsor is replaced?