

November 27, 2016

Ontario Energy Board
2300 Yonge Street
P.O. Box 2319
Toronto, Ontario
M4P 1E4

BoardSec@ontarioenergyboard.ca

Re: Distribution Rate Application for London Hydro
OEB File: EB-2016-0091

I first met Mr. Chris Butler following his presentation at the OEB's *Community Meeting* at London Public Library during the evening of November 15th (concerning London Hydro's distribution rate application), read his letters of comment on the OEB's website,¹ and read his letter to the editor in Saturday's London Free Press.²

Although Mr. Butler is certainly making a valid point, the intricacies of statistical analysis is not a subject that is intuitive or readily comprehended by the general public. My purpose in writing is to provide a simple analogy that I believe will be helpful in advancing the conversation (by assisting both the general public and regulator better appreciate the point that Mr. Butler is making).

- Imagine for a moment attending an equestrian event with 100 horses (each with 4 legs) on exhibit and 100 spectators (each with 2 legs) that are watching the event from the stands. One could calculate that "*the average mammal in the stadium therefore has 3 legs*". Although mathematically correct, we know that this conclusion is preposterous, and therefore wouldn't use it for anything. From a statistical analysis perspective, the "*average*" is only meaningful if it is representative of the majority of the population, but in this case it isn't representative of any of the mammals in the stadium.
- Use of this derived average can be very misleading and therefore result in disastrous outcomes. For example, one might (incorrectly) infer from this statistic that there is an emerging marketplace for pants with 3 legs, horse-shoes packaged and sold in lots of 3, and similar flawed decisions.

Mr. Butler correctly recognizes that the OEB has instructed the community of LDC's to define rate impacts to residential customers in terms of the provincial average consumption of 750 kWh per month,³ but akin to the 3-legged mammal, **if** this defined typical monthly residential energy consumption isn't

¹ Ontario Energy Board website; Case Number EB-2016-0091; see URL::

http://www.rds.ontarioenergyboard.ca/webdrawer/webdrawer.dll/webdrawer/search/rec?sm_udf10=EB-2016-0091&sort1=rs_dateregistered&rows=200

² London Free Press, Saturday November 26th edition; Letters to the Editor: Curb OEB; electronic edition available at URL:: <http://www.lfpress.com/2016/11/25/letters-to-the-editor-nov-26>

³ Ontario Energy Board publication: EB-2016-0153, *Defining Ontario's Typical Electricity Customer*; April 14, 2016. Document available in electronic format at URL::

http://www.ontarioenergyboard.ca/oeb/Documents/Documents/Report_Defining_Typical_Elec_Customer_20160414.pdf

representative of the majority of London Hydro's residential consumers, then the calculated rate impact to residential customers could certainly be misleading.

According to the OEB publication *2015 Yearbook of Electricity Distributors*,⁴ London Hydro had 139,861 residential customers and sold 1,084,665,542 kWh of electricity to this sector. This works out to an average annual consumption of 7,755 kWh per customer or an average monthly consumption of 646 kWh per customer. I have little familiarity with the principles of rate design, but as a ratepayer I do wonder what public good is served by overstating the average monthly electricity consumption for residential customers in London.

Note: It is, of course, necessary to carry out a number of population tests before blindly using this 646 kWh per month consumption as a proxy for London's typical residential customer. Otherwise, similar to the 3-legged mammal example above, one may find that 646 kWh is simply a mathematical outcome and isn't really representative of the population of London's residential customer base.

As a final note, I offer no opinion as to whether the residential bill impact expressed in London Hydro's application is appropriate or misleading. Rather, like Mr. Butler, I'm simply drawing attention to the suspect nature of the OEB's prescribed methodology for calculating residential bill impacts for Londoners.

Hopefully this letter serves its intended purpose of advancing the conversation.

Yours truly,



Gary Rains, P.Eng.

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⁴ See URL:: http://www.ontarioenergyboard.ca/oeb/ Documents/RRR/2015_Yearbook_of_Electricity_Distributors.pdf