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October 25, 2016

BY COURIER (2 COPIES) AND RESS

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, Suite 2700, P.O. Box 2319
Toronto, Ontario M4P 1E4

Dear Ms. Walli:

Re: EB-2016-0160 – Hydro One – Cost of Service

On October 21, 2016, Hydro One provided submissions in response to Environmental Defence's motion for full and adequate interrogatory response. I am writing to provide reply submissions.

Relevance and Importance

Hydro One argues that the requested transmission loss information is irrelevant because "the IESO has not directed Hydro One to proceed with any system project specifically intended to address losses on the transmission network" and potential investments to reduce losses "cannot be appropriately conducted in the context of this rates proceeding."[1] Hydro One's argument is based on (i) the incorrect assumption that the transmission loss issue relates only to large-scale capital investments and (ii) an overly narrow view of the Board's jurisdiction.

Transmission losses can be reduced through operational measures, not just large-scale capital investments. Environmental Defence is seeking to examine, among other things, whether Hydro One has systems in place to ensure that these operational measures are undertaken where this would reduce customer bills. The Board has the jurisdiction to consider this issue. This issue is particularly important seeing as the cost of losses are not recovered through Hydro One's own rates. If the Board does not oversee Hydro One's operations in this regard, it may be that potential operational measures are overlooked to the detriment of customers.

Transmission losses are particularly important to the present application seeing as Hydro One is required to propose a scorecard for the first time as part of the movement toward incentive rate-setting.[2] Environmental Defence wishes to address whether the scorecard should include metrics relating to transmission losses. This would align with the four RRFE performance outcomes, including "public policy responsiveness" (e.g. because loss reductions would be responsive to the government's "conservation first" policy) and "operational effectiveness" (e.g. because loss

[1] Hydro One's Submissions, October 21, 2016, pp. 6-7.
[2] Ontario Energy Board, *Filing Requirements for Electricity Transmission Applications*, Chapter 2, February 11, 2016, p. 2.

reductions are an element of effectiveness that can lead to reduced bills).[3] In assessing whether losses should be included in the scorecard, it would be helpful to have information relating to the magnitude of the losses, the cost of the losses, and the availability of measures to reduce losses. For example, if transmission losses are worth over $389,000,000 as indicated by Environmental Defence's initial calculations, this would suggest that they should be activity monitored and managed.[4]

Hydro One's proposed scorecard promotes cost reductions without including any transmission loss metrics.[5] This means that Hydro One would have an incentive to "cut corners" with respect to transmission losses in order to reduce costs. This is a serious mismatch between Hydro One's incentives and the government's conservation first policy, as well as the interests of consumers who could potentially benefit from lower bills if Hydro One were to implement cost-effective measures to reduce transmission losses.

Hydro One also oversimplifies Environmental Defence's case by suggesting that it is limited to "system project[s] specifically intended to address losses."[6] Losses can be reduced from a wide variety of sources – not just large scale projects mandated by the IESO. For example, it may be that a project intended to improve reliability would be undertaken because it also results in transmission loss reductions. If Hydro One were to consider transmission losses, including a quantification of the associated cost-savings, this factor would be considered along with others in a cost/benefit analysis. Furthermore, transmission losses may also be relevant to how a capital project is executed (e.g. justifying a decision to use different equipment or technology on an existing project).

Transmission losses are not only relevant to the kind of large-scale system planning undertaken by the IESO. They are also a potential consideration in a variety of other operational and investment decisions that are within Hydro One's purview. Most importantly for this motion, they are directly relevant to the matters under this Board's jurisdiction, including its role in creating incentives for Hydro One to be responsive to public policy and to promote the interests of consumers who could benefit from reductions in transmission losses.

Availability of the Information

Hydro One objects to the motion on the ground that: "what ED seeks is for Hydro One and/or the IESO to take positive steps to obtain and produce information that Hydro One does not

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[3] Ontario Energy Board, *Renewed Regulatory Framework for Electricity Distributors*, October 18, 2012, p. 57.
[4] Ontario's generator output in 2015 was 153.7 TWh (*http://www.newswire.ca/news-releases/ieso-releases-2015-ontario-electricity-data-sector-wide-changes-continue-to-impact-supply-demand-price-564992261.html*). Average transmission system line losses were approximately 2.5% (*http://www.ieso.ca/Documents/conservation/LDC-Toolkit/Guidelines-and-Tools/CDM-EE-Cost-Effectiveness-Test-Guide-v2-20150326.pdf, Appendix A*). Multiplying those figures provides approximate system losses for 2015 of 3,842,500 MWh. The weighted average Ontario wholesale market electricity price for 2015 was $101.38/MWh (*http://www.ieso.ca/imoweb/pubs/marketReports/monthly/2015dec.pdf, p. 22*). Multiplying the losses by the price provides an approximate total cost of $389,552,650.
[5] Exhibit B2, Tab 1, Schedule 1, p. 5.
[6] Hydro One's Submissions, October 21, 2016, p. 6 (Hydro One states: "the IESO has not directed Hydro One to proceed with any system project specifically intended to address losses on the transmission network").

possess."[7] The fact that Hydro One would need to take "positive steps" is not a justification to refuse to provide a response. This reluctance to put work into providing a response may flow from Hydro One's belief that this issue is simply irrelevant. If the issue were irrelevant, or only of very minor relevance, Hydro One's effort may not be worthwhile. However, for the reasons discussed above, Environmental Defence submits that the importance of this issue merits reasonable efforts in attempting to provide a response.

Hydro One specifically objects to the effort required to provide a response because it would require "computations involving 8,760 hours of the year."[8] This is not overly onerous. Data on an hourly basis can be easily manipulated. Hydro One and the IESO have highly qualified engineers and other staff that frequently manipulate data on a far greater scale.

Furthermore, Environmental Defence has not requested precise figures. A "best efforts" response with provisos is sufficient. A calculation of the magnitude and cost of Hydro One's losses would be helpful even if it was subject to, for example, a 10% or 20% margin of error. A "ballpark" figure would still assist the Board and parties in assessing the importance of transmission losses, and whether they should be included in the scorecard.

Tellingly, Hydro One did not substantively respond to Environmental Defence's suggestions as to potential ways to calculate the losses and the costs of those losses.[9] Had these suggestions been unworkable, presumably Hydro One would have explained why. It did not do so, let alone identify a technical constraint that would make *all* methods regularly used to calculate transmission losses unworkable. Furthermore, Hydro One also did not respond to Environmental Defence's submission that Hydro One should be able to calculate its losses seeing as many other transmission utilities do so.[10] Again, if other transmission companies can calculate their losses, why wouldn't Hydro One be able to do so too?

Hydro One may feel that this issue is not worth its time or effort. Indeed, that appears to be the case seeing as Hydro One states that it "does not maintain information on energy losses, let alone use this type of information in its own transmission investment planning process."[11] However, the degree to which Hydro One *should be* measuring and managing transmission losses is a valid

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[7] Hydro One's Submissions, October 21, 2016, p. 3.
[8] Hydro One's Submissions, October 21, 2016, p. 3.
[9] Environmental Defence submissions, September 29, 2016, paras. 17 & 26 [Motion Record, tab 1] (Re the magnitude of losses: "For example, it may be possible to estimate Hydro One's transmission losses by multiplying the total system transmission losses by the percentage of the total system transmission volumes that are transmitted Hydro One. Alternatively, it may be possible to determine Hydro One's transmission losses by subtracting the MWhs provided to its customers (i.e. LDCs and transmission-connected customers) from the MWhs that generators transmit to Hydro One's system (Hydro One has confirmed that all of these figures are metered). Regardless of how it is done, no technical constraint has been identified that would make an estimate of Hydro One's transmission losses impossible or overly onerous to generate on a best efforts basis." Re the cost: "The total system losses are available in 5-minute intervals. It would therefore be possible to determine the losses on an hourly basis and multiply those losses by the Hourly Ontario Electricity Price. Alternatively, the losses could be summed for a year and multiplied by the weighted average price for that year. Both of those figures could be provided along with any provisos or qualifications that the IESO's or Hydro One's engineers feel are appropriate. It may also be that other methods of estimating the cost are available.").
[10] Environmental Defence submissions, September 29, 2016, para. 17 [Motion Record, tab 1].
[11] Hydro One's Submissions, October 21, 2016, p. 2.

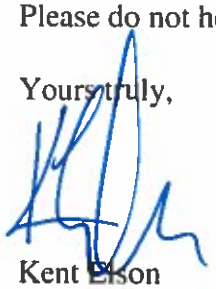
issue for this hearing. Hydro One has not established that it would be impossible or overly onerous to provide responses to Environmental Defence's interrogatories on this important issue.

Conclusion

For the reasons set out above, and the reasons set out in its primary submissions (dated September 29, 2016 and found in tab 1 of the motion record), Environmental Defence requests an order that Hydro One provide full and adequate responses to Environmental Defence interrogatories 1 to 5.

Please do not hesitate to contact me should anything else be required or of assistance.

Yours truly,



Kent Elson

cc: Participants in EB-2016-0160