

October 5, 2017

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-2017-0150 – Independent Electricity System Operator (IESO)
Revenue Requirement**

I am writing pursuant to the proposed settlement agreement in this proceeding to request that issue 5.1 regarding the IESO's regulatory scorecard be dealt with by way of an oral hearing.

Factual Issues Requiring Oral Evidence

First and foremost, the question of which metrics should be included in a regulatory scorecard depends on disputed factual issues that would benefit from oral evidence and cross-examinations. For example, the extent of the IESO's control over a certain metric is a factor to consider in deciding whether that metric should be included. That is a factual issue on which there are divergent views, including with respect to a potential metric relating to the magnitude of transmission losses on the IESO-operated electricity system.

Environmental Defence is advocating for a transmission losses metric to be included in the regulatory scorecard. The scorecard consultant retained by the IESO, John Todd, agreed that a transmission loss metric would be a "useful indicator."¹ In considering the possibility of a transmission losses metric, he noted the need to consider factual issues such as "the degree of control that the IESO has over transmission losses and the division of responsibilities between the IESO and transmission owner/operators."² These issues would benefit from an oral hearing.

In a recent Hydro One hearing, Environmental Defence argued that the utility should be doing more to transparently assess cost effective opportunities to reduce line losses. The Board agreed, and in coming to its decision relied extensively on oral testimony and evidence obtained by cross-examination (see enclosed excerpt). This included evidence on the extent of Hydro One's control over transmission losses. For the same reason why

¹ EB-2017-0150, Exhibit C-1-1, Attachment 1, Page 36.

² *Ibid.*

the Board benefited from oral evidence and cross-examination in the Hydro One case, it would benefit from oral evidence and cross-examination in this case.

Importance of the Issue

An oral hearing is also warranted in light of the importance of transmission losses, and whether and how they should be included in a regulatory scorecard. In the recent Hydro One rates case, the Board found that “the cost of transmission line losses is very large.”³ This issue was important enough for the Board to issue the following direction to Hydro One:

*The OEB finds that, given the magnitude of line losses, Hydro One should work jointly with the IESO to explore cost effective opportunities for line loss reduction. Hydro One should also explore, as part of its investment decision process, opportunities for economically reducing line losses. The OEB requires Hydro One to report on these initiatives as part of its next rate application.*⁴

More generally, regulatory scorecards are an important issue for the Board and are required as part of the Board’s frequently-expressed goal to move toward more performance-based ratemaking. Furthermore, the fact that this issue could not be settled suggests that the intervenors and applicant believe it is very important as well.

Insufficient Evidence

Finally, an oral hearing is required because there is insufficient written evidence on the record regarding transmission losses. The applicant has declined to respond to the large majority of Environmental Defence’s interrogatories even on very basic questions. For example, the applicant declined to:

- Provide an estimate of the magnitude or cost of transmission losses in Ontario (IRs 1 and 3, attached);
- Provide *any* evidence on the steps that it takes or could be taking to optimize the level of transmission losses (IR 9, attached);
- Provide *any* evidence on its role, if any, with respect to the steps that other entities such as Hydro One take or could be taking to optimize the level of losses (IR 10, attached); and
- Provide any comment on the relative appropriateness of various potential metrics for transmission losses (IRs 13 and 14, attached).

Environmental Defence will be asking the IESO to provide better interrogatory responses based on the Board’s interest in this issue as indicated in the Hydro One decision, and

³ Decision in EB-2016-0160, p. 31.

⁴ Decision in EB-2016-0160, p. 32.

depending on the IESO's response, may file a motion for better interrogatory responses or for a technical conference. But for present purposes, it is clear that there is insufficient evidence on the record for the Board to make a decision on the appropriateness of the IESO's proposed Regulatory Scorecard.

Finally, it is important to note that much of the important evidence regarding transmission losses resides with the IESO itself. Without an oral hearing, intervenors would be at a large informational disadvantage.

In light of the complicated factual issues in dispute, the importance of the issues, and the lack of evidence currently on the record, Environmental Defence requests that an oral hearing be held.

Yours truly,



Kent Elson

Encl.

Cc: Parties in the above matter



**Ontario Energy Board
Commission de l'énergie de l'Ontario**

DECISION AND ORDER

EB-2016-0160

HYDRO ONE NETWORKS INC.

Application for electricity transmission revenue requirement and related changes to the Uniform Transmission Rates beginning January 1, 2017 and January 1, 2018

BEFORE: Ken Quesnelle
Vice Chair and Presiding Member

Emad Elsayed
Member

Peter C. P. Thompson, Q.C.
Member

September 28, 2017

The OEB realizes that such a report is not explicitly required as part of OEB's Filing Requirements for Electricity Transmission Applications. The OEB also realizes that investment priorities are not static. For example, as mentioned in Section 5.0, circumstances could arise which render some of the planned projects uneconomical. However, the OEB needs to be assured that Hydro One's planning process is robust and that Hydro One ensures that it has the capability to successfully execute what has been planned. Given the process gaps that have been identified in this proceeding, as well as the significant variances between planned and actual capital expenditures and between planned and actual in-service additions over a number of years, the OEB needs to have confidence in Hydro One's processes. Such a report would be a step towards that objective.

4.5 LINE LOSSES

Environmental Defence (ED) filed evidence regarding the loss minimization practices of utilities in other jurisdictions.⁴³ This evidence advocates for measuring and reporting losses, benchmarking transmission losses, considering transmission losses in operational and investment decisions, and encouraging reduction of losses through explicit incentives. ED proposed that Hydro One develop a transmission loss reduction plan to identify all cost effective projects that could economically reduce losses on Hydro One's transmission system.

In the oral hearing, Hydro One's direct examination addressed these points. **Hydro One stated that many of the practices advocated by ED, which are part of transmission ownership and operation in other jurisdictions, are part of the role of the Independent Electricity System Operator (IESO), in Ontario.** Accordingly, Hydro One submitted that the IESO is better placed to measure and report on losses, benchmark transmission losses and encourage loss reduction through explicit incentives as part of its regional planning efforts.

Findings

There was considerable discussion during this proceeding about how Hydro One deals with transmission line losses. **There was no disagreement among the parties about the fact that the cost of transmission line losses is very large.** The debate was about how much of this cost can be avoided or reduced. It was also clear that **the responsibility for managing line losses lies with the IESO in some areas** (e.g. regional planning) and with Hydro One in some cases (e.g. asset refurbishment or replacement). ED submitted

⁴³ Exhibit K 12.4

evidence regarding the loss minimization practices of utilities in other jurisdictions. Some of these practices may not be applicable to Hydro One as the IESO is responsible for the operation of the Ontario transmission grid as a whole.

In its Reply Argument, Hydro One stated that when new investments are proposed and where selection of new equipment is evaluated for procurement purposes, losses are taken into account where it is appropriate to do so. However, **during the oral hearing, Hydro One's witnesses were not able to point to any internal documents that describe its approach to evaluating line losses as part of its investment planning process.** Hydro One's witnesses also could not recall any reference to transmission line losses in business cases associated with relevant capital investments. Hydro One also acknowledged that many of its planning decisions (e.g. choice of conductor and station configurations) are made without any input from the IESO.⁴⁴

Hydro One's main argument is that the benefit of taking measures to reduce line losses would not justify the associated cost. The example provided by Hydro One during the hearing was disputed because it used the total project cost as opposed to the incremental cost of loss reduction measures to compare to annual savings resulting from line loss reduction.

In summary, Hydro One has not provided any evidence of specific initiatives that it has undertaken or is planning to undertake to reduce line losses.

The OEB finds that, given the magnitude of line losses, Hydro One should work jointly with the IESO to explore cost effective opportunities for line loss reduction. Hydro One should also explore, as part of its investment decision process, opportunities for economically reducing line losses. The OEB requires Hydro One to report on these initiatives as part of its next rate application.

4.6 BENCHMARKING

In the Hydro One Networks Inc. Transmission Rate Application Settlement Agreement for the 2015 and 2016 rate years,⁴⁵ Hydro One agreed to complete an independent Transmission Cost Benchmarking study to be filed with Hydro One's next transmission rates application. Hydro One commissioned Navigant Consulting and First Quartile Consulting to perform the study which was submitted with the application.⁴⁶

⁴⁴ Hydro One Reply Argument, p. 52

⁴⁵ EB-2014-0140

⁴⁶ Exhibit B2/Tab 2/Schedule 1/Attachment 1

ED INTERROGATORY 1

Issue 5.1 Is the IESO's proposed Regulatory Scorecard appropriate?

INTERROGATORY

Reference for the following interrogatories: Ex. C-1-1, p. 4 and Ex.C-1-1, Attachment 1, p. 36

1. Please provide the annual transmission losses (TWh) of the IESO-controlled Ontario electricity transmission system for each of the last ten years.

RESPONSE

1. The IESO believes that the requested information is not relevant to the current proceeding. As stated in the Board-approved settlement agreement in the IESO's 2016 revenue requirement submission (EB-2015-0275), the scorecard is intended to "be a tool for the Board and intervenors to use in evaluating the IESO's proposed expenditure and revenue requirement". As described in Exhibit C-1-1, the IESO is of the view that transmission losses are not indicators of the cost effectiveness of IESO activities but rather of the overall attributes and characteristics of the electricity system in Ontario.

To provide further context, transmission losses are one of many complex and sometimes competing priorities that the IESO must constantly balance in fulfilling its objects across its diverse functions. "Optimizing" transmission line losses over other priorities would entail economic, social and environmental policy trade-offs that could come at an ultimate cost to ratepayers. For example, a 500 kV versus a 230 kV transmission line would mean lower losses but would be a significantly greater capital expenditure and limit the amount and type of resources that could be connected to it due to reliability concerns. Similarly, the overall cost of one generator's supply may be lower than another's even if dispatching the supply would lead to higher transmission losses. All of these factors and system attributes must be considered in the overall balancing of the electricity system and are influenced by, amongst other things, reliability requirements, policy initiatives, and stakeholder priorities.

ED INTERROGATORY 3

Issue 5.1 Is the IESO's proposed Regulatory Scorecard appropriate?

INTERROGATORY

Reference for the following interrogatories: Ex. C-1-1, p. 4 and Ex.C-1-1, Attachment 1, p. 36

3. Please state the financial cost to Ontario electricity consumers of Ontario's annual transmission losses for each of the last ten years. Please show your assumptions and calculations. If the IESO calculates the financial cost to consumers based only on the HOEP, please also provide a calculation of the financial cost that includes all costs included in the Global Adjustment Charge.

RESPONSE

3. Please refer to the response to ED Interrogatory 1 at Exhibit I, Tab 5.1, Schedule 4.01.

As described in Exhibit C-1-1, the IESO is of the view that transmission losses are not indicators of the cost effectiveness of IESO activities. As a result, the costs associated with these transmission losses are also not indicators of the cost effectiveness of IESO activities.

For further clarification, costs associated with system-wide transmission line losses are a component of the Net Energy Market Settlement Uplift (charge code 150). The charge covers differences between the amount paid to suppliers for the commodity and the amount paid by buyers in a given hour. The Net Energy Market Settlement Uplift is the only settlement mechanism in Ontario's wholesale electricity market through which market participants are charged for costs attributed to system-wide transmission losses and is recovered through the wholesale market service charge. In the Board's August 4 Decision on the issues list for this proceeding, the Board determined that it will not review the wholesale market service charge in this proceeding¹.

The IESO believes that review of the settlement of costs attributed to transmission losses is therefore out of scope of the current proceeding. In an effort to be of assistance to parties, the IESO provides the following additional context.

The settlement methodology for transmission losses was recommended by the government-appointed Market Design Committee and accepted by the IESO's Technical Panel prior to the opening of Ontario's wholesale competitive electricity market in May

¹ Page 7 of the OEB's August 4, 2017 Decision (EB-2017-0150) on Issues List

1 2002. A change to the methodology should be subject to comprehensive review and
2 input from stakeholders through the appropriate forums, including the IESO Technical
3 Panel.

4 The global adjustment (GA) framework and equation, which does not include a factor
5 for transmission line losses, are set out in government regulation. The GA is intended to
6 cover the cost for providing both adequate future generating capacity and conservation
7 programs for Ontario. As such, the associated GA costs cannot be directly attributed to
8 volumes of electricity flowing across Ontario's transmission lines and the associated
9 losses.

1 ED INTERROGATORY 9

2 Issue 5.1 Is the IESO's proposed Regulatory Scorecard appropriate?

3 INTERROGATORY

4 Reference for the following interrogatories: Ex. C-1-1, p. 4 and Ex.C-1-1, Attachment 1, p. 36

- 5 9. Please list and describe all of the actions and processes by which the IESO optimizes or
6 could optimize the level of transmission losses (e.g. generation siting, generation
7 dispatch, voltage control, identification of incremental line or equipment investments,
8 expansion of demand response, etc.). Please provide a full and comprehensive response.

9 RESPONSE

- 10 9. Please refer to the response to ED Interrogatory 1 at Exhibit I, Tab 5.1, Schedule 4.01.

1 ED INTERROGATORY 10

2 Issue 5.1 Is the IESO's proposed Regulatory Scorecard appropriate?

3 INTERROGATORY

4 Reference for the following interrogatories: Ex. C-1-1, p. 4 and Ex.C-1-1, Attachment 1, p. 36

5 10. Please list and describe all of the actions and processes for optimizing transmission
6 losses that are the responsibility of entities other than the IESO. For each action and
7 process, please describe any role that the IESO plays with respect to those actions and
8 processes or, where appropriate, please indicate that the IESO plays no role at all
9 whatsoever.

10 RESPONSE

11 10. Please refer to the responses to ED Interrogatory 1 at Exhibit I, Tab 5.1, Schedule 4.01,
12 and ED Interrogatory 9 at Exhibit I, Tab 5.1, Schedule 4.09. The IESO is of the view that
13 the actions and processes that are the responsibility of other entities are also not relevant
14 to the current proceeding.

1 ED INTERROGATORY 13

2 Issue 5.1 Is the IESO's proposed Regulatory Scorecard appropriate?

3 INTERROGATORY

4 Reference for the following interrogatories: Ex. C-1-1, p. 4 and Ex.C-1-1, Attachment 1, p. 36

5 13. If the Board were to direct the IESO to measure and monitor the effectiveness of its
6 efforts to optimize the level of transmission losses, please compare, rank, and discuss the
7 appropriateness of the following metrics:

- 8 a. Annual transmission losses (TWh);
9 b. Annual transmission losses (TWh) as a percent of total annual transmission
10 throughput volumes (TWh);
11 c. Total annual cost of transmission losses to consumers; and
12 d. Total annual cost of transmission losses to consumers per TWh of total annual
13 transmission throughput volumes.

14 RESPONSE

15 13. Please refer to the responses to ED Interrogatory 1 at Exhibit I, Tab 5.1, Schedule
16 4.01, and ED Interrogatory 3 at Exhibit I, Tab 5.1, Schedule 4.03.

1 ED INTERROGATORY 14

2 Issue 5.1 Is the IESO's proposed Regulatory Scorecard appropriate?

3 INTERROGATORY

4 Reference for the following interrogatories: Ex. C-1-1, p. 4 and Ex.C-1-1, Attachment 1, p. 36

5 14. If the IESO wished to measure and monitor the effectiveness of its efforts to optimize the
6 level of transmission losses or the Board were to direct it to do so, what metric(s) would
7 it use? Please explain.

8 RESPONSE

9 14. Please refer to the responses to ED Interrogatory 9 at Exhibit I, Tab 5.1, Schedule 4.09,
10 and ED Interrogatory 13 at Exhibit I, Tab 5.1, Schedule 4.13.

11 The IESO is not in a position to comment on what metric the OEB would determine as
12 most appropriate to measure and monitor the effectiveness of efforts to optimize the
13 level of transmission losses, particularly given the IESO's limited control of electricity
14 system characteristics that influence losses.