Elson
Advocacy

August 9, 2018

BY COURIER (2 COPIES) AND RESS

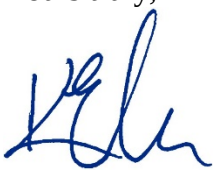
Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, Suite 2700, P.O. Box 2319
Toronto, Ontario M4P 1E4

Dear Ms. Walli:

Re: EB-2018-0143 – Independent Electricity System Operator (IESO) Revenue Requirement

Enclosed please find the interrogatories of Environmental Defence in the above matter.

Yours truly,



Kent Elson

Encl.

Copy: Parties in the above proceeding

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EB-2018-0143

Independent Electricity System Operator (IESO) Application for Approval of 2018 Revenue Requirement, Expenditures, and Fees

Environmental Defence Interrogatories for the IESO

Issue 5.1: Are the targets developed by the IESO for each performance measure included in the 2018 Regulatory Scorecard reasonable?

Interrogatory No. 5.1-ED-1

Reference: Exhibit C-1-1, Attachment 1

Please explain the rationale behind the IESO's proposed target of 0.04$/kWh for the annual reporting of portfolio cost ($/kWh) for electricity conservation programs.

Interrogatory No. 5.1-ED-2

Reference: Exhibit C-1-1, Attachment 1

Preamble: The IESO is proposing a target of 0.04$/kWh for the annual reporting of portfolio cost ($/kWh) for electricity conservation programs.

Interrogatory:

a) Is the IESO using or proposing to use 0.04$/kWh as a figure to screen out potential conservation programs?
b) Please confirm that a conservation measure may be cost effective and less expensive than new generation even if the measure costs more than 0.04$/kWh.

Interrogatory No. 5.1-ED-3

Reference: Exhibit C-1-1, Attachment 1

Preamble: The IESO explains its conservation target as follows:

> *"IESO is committed to Ontario's vision to invest in conservation first, before new generation, where cost-effective. The IESO evaluates the success of its conservation programs by looking at the performance of the entire portfolio. The levelized unit energy costs (LUEC) is a standard cost effectiveness test that normalizes the cost incurred by the program administrator (customer incentives and program administrative costs) per unit of energy savings. LUEC provides a basis for not only comparing Conservation and Demand Management (CDM) measures, program or portfolios with each other, but also*

for comparing CDM to the cost of supply-side resources. Final annual cost effectiveness results are published on the IESO website in Q3 of the following year."

Please provide:

a) The price ($/kWh) at which conservation is more cost-effective than new generation in each of the years covered by the scorecard (2016 actual, 2017 actual, and 2018 forecast);
b) The marginal cost of electricity in Ontario for each of the years covered by the scorecard (2016 actual, 2017 actual, and 2018 forecast); and
c) The avoided costs ($) per kWh of electricity conservation for each of the years covered by the scorecard (2016 actual, 2017 actual, and 2018 forecast) and the calculations underlying the avoided costs.

Interrogatory No. 5.1-ED-4

Reference: Exhibit C-1-1, Attachment 1

Preamble: In its 2017 Decision and Order for the IESO's 2017 rates case, the Board made the following order:

"For the scorecard measure, 'Conservation – Achievement of 2020 energy savings target milestones (TWh),' the IESO should include a target that is aligned with the OEB's scorecard for electricity distributors."

Interrogatory: Please explain the rationale behind the IESO's proposed target of 5.7 TWh (66%)

Interrogatory No. 5.1-ED-5

Reference: Exhibit C-1-1, Attachment 1

Preamble: In its explanation of its conservation targets, the IESO states as follows:

"The 2013 Long Term Energy Plan includes a conservation target of 30 terawatt-hours (TWh) in reduced electricity consumption by 2032. To stay on track for this long term target, 8.7 TWh of savings has been committed to be achieved between 2015 and 2020 through programs enabled by the Conservation First Framework beginning in 2015. Of the total target, 7 TWh will be delivered through collaborations with LDCs across the province. The remaining 1.7 TWh will come from the group of large transmission connected consumers through the IESO's Industrial Accelerator Program."

The IESO's regulatory scorecard consultant for its 2017 rates case, John Todd, concluded with respect to the TWh conservation targets that:

"Appropriate annual milestones consistent with these long-term targets should be identified for reporting in the Scorecard."

In its 2017 Decision and Order for the IESO's 2017 rates case, the Board made the following order:

> *"For the scorecard measure, 'Conservation – Achievement of 2020 energy savings target milestones (TWh),' the IESO should include a target that is aligned with the OEB's scorecard for electricity distributors."*

Interrogatory:

a) Please provide the IESO's plan to achieve 8.7 TWh in conservation savings by 2020, including a table containing planned conservation savings targets (TWh) for each year;
b) Please provide the IESO's plan to achieve 30 TWh in conservation savings by 2030, including a table containing planned conservation saving targets (TWh) for each year;
c) Please provide a table with the actual and forecast incremental electricity conservation savings (TWh) from 2015 to 2020; and
d) Please provide a table showing the 8.7 TWh 2015-2020 conservation target on an annual basis (2015-2020) as if an equal amount of conservation was and will be achieved for each year to meet the target.

Interrogatory No. 5.1-ED-6

Reference: Exhibit C-1-1, Attachment 1

Preamble: In its explanation of its conservation targets, the IESO states as follows:

> *"[The] IESO is committed to Ontario's vision to invest in conservation first, before new generation, where cost-effective."*

Interrogatory:

Please provide a table comparing the conservation savings figures (TWh) in the IESO's proposed scorecard (2016 actual, 2017 actual, and 2018 forecast) and the conservation potential set out in the 2016 Achievable Potential Study (2016, 2017, and 2018). Please include all the scenarios discussed in the study (e.g. budget constrained, unconstrained, market potential, etc.).

Interrogatory No. 5.1-ED-7

Reference: Exhibit C-1-1, Attachment 1

Preamble: In its explanation of its conservation targets, the IESO states as follows:

> *"[The] IESO is committed to Ontario's vision to invest in conservation first, before new generation, where cost-effective."*

Interrogatory:

Please provide a table comparing the conservation savings figures (TWh) in the IESO's proposed scorecard (2016 actual, 2017 actual, and 2018 forecast) and the conservation potential set out in the 2018 Market Achievable Potential Study (2016, 2017, and 2018). Please include all the scenarios discussed in the study (e.g. budget constrained, unconstrained, market potential, etc.).

Issue 5.4: What is the status of the IESO's transmission losses study?

Interrogatory No. 5.4-ED-8

Reference: Exhibit B-1-1, p. 3

Preamble: The IESO forecasts 2.9 TWh in transmission losses in 2018.

Interrogatory:

a) Please explain the methodology for calculating the IESO's forecast of 2.9 TWh in transmission losses for 2018; and
b) Please provide the calculations underlying the IESO's forecast of 2.9 TWh in transmission losses for 2018.

Interrogatory No. 5.4-ED-9

Reference: Exhibit C-1-1, p. 3

Preamble: In the 2017/2018 Hydro One transmission rates case reads, the Board made the following order:

> *"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."*

In its decision on the issues list in this proceeding, the Board stated as follows:

> *"The OEB has added a new issue, issue 5.4, on the status of the transmission losses study. This issue will allow ED and others to appropriately examine the IESO's response to the OEB's direction in its 2017 fee application with respect to transmission losses."*

Interrogatory:

Please provide a copy of any draft reports, presentations, or memos prepared by or for the IESO and/or Hydro One pursuant to the OEB's direction in its 2017 fee application with respect to transmission losses.

Interrogatory No. 5.4-ED-10

Reference: Exhibit C-1-1, p. 3

Preamble: In the 2017/2018 Hydro One transmission rates case reads, the Board made the following order:

> *"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."*

In its decision on the issues list in this proceeding, the Board stated as follows:

> *"The OEB has added a new issue, issue 5.4, on the status of the transmission losses study. This issue will allow ED and others to appropriately examine the IESO's response to the OEB's direction in its 2017 fee application with respect to transmission losses."*

Interrogatory:

(a) Please indicate when the IESO and Hydro One's study regarding transmission losses will be complete.
(b) Please describe the scope of the work and/or research being undertaken by the IESO and Hydro One pursuant to the Board's direction in the IESO's 2017 fee application with respect to transmission losses. If the scope is described in any internal documents (e.g. presentations, draft reports, etc.), please provide those documents.

Interrogatory No. 5.4-ED-11

Reference: Exhibit C-1-1, p. 3

Preamble: In the 2017/2018 Hydro One transmission rates case reads, the Board made the following order:

> *"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."*

In its decision on the issues list in this proceeding, the Board stated as follows:

> *"The OEB has added a new issue, issue 5.4, on the status of the transmission losses study. This issue will allow ED and others to appropriately examine the IESO's response to the OEB's direction in its 2017 fee application with respect to transmission losses."*

Interrogatory:

Will the transmission losses study include each of the following elements:

(a) A methodology for calculating transmission losses;
(b) A methodology for calculating the cost of transmission losses to electricity consumers;
(c) A methodology for assessing the cost-effectiveness of various kinds of incremental capital investments intended in whole or in part to reduce transmission losses;
(d) A methodology for assessing the cost-effectiveness of various kinds of operational measures aimed at reducing transmission losses;
(e) A financial model that recognises that transmission loss volumes are highest when the cost of electricity is the highest (i.e. at peak electricity demand);
(f) Avoided cost figures for transmission loss reductions (e.g. to determine whether loss reduction measures or investments are cost-effective);
(g) A clear division of responsibilities between the IESO and Hydro One for seeking out, identifying, and assessing the various kinds of measures to cost-effectively reduce transmission losses;
(h) A recommendation regarding regular transmission loss reductions planning and reporting;
(i) An assessment of the transmission losses planning and reporting tools used by the System Operator in the United Kingdom, National Grid UK[1];
(j) An assessment of best practices in transmission loss reduction measures in leading jurisdictions, including regulatory, planning, and reporting practices?

If any of the above items will not be addressed in the study, please explain why.

Interrogatory No. 5.4-ED-12

Reference: Exhibit C-1-1, p. 3

Preamble: In its *CEER Report on Power Losses* (October 18, 2017), the Council of European Energy Regulators made the following recommendations (p. 34)[2]:

> Overall:
> 1) Harmonise definitions for improved benchmarking
> 2) Make more data available, such as the availability of energy injected into distribution grids, which would permit the calculation of distribution system losses as a percentage of energy injected into distribution grids
> 3) Incentivise system operators to reduce losses instead of passing losses on to consumers
> 4) Employ a life cycle costing approach that includes losses when making investment decisions

[1] See e.g. https://www.nationalgrid.com/sites/default/files/documents/36718-Transmission%20Losses%20Strategy.pdf.
[2] https://www.ceer.eu/documents/104400/-/-/09ecee88-e877-3305-6767-e75404637087

Technical losses:

1) Increase voltage levels
2) Apply less transformational steps to deliver electricity to consumers
3) Utilise new and improved equipment
4) Employ distributed generation in a more efficient manner, including combining it with local storage
5) Optimise network flows – reduce peaking
6) In general, pursue network architecture and management that promote the highest efficiency

Non-Technical losses:

1) All countries should collect data on these types of losses
2) Focus on more accurate recording of electricity consumptions through improved metering and the use of smart meters
3) Reduce theft and other hidden losses

Interrogatory:

a) For each of the above recommendations, please indicate whether the applicable issue is being addressed by the ongoing transmission losses research by the IESO and Hydro One; and
b) For each of the above recommendations, please indicate whether the IESO agrees with the recommendation (if a decision has not yet been made, please indicate when a decision will be made).

Interrogatory No. 5.4-ED-13

Reference: Exhibit C-1-1, p. 3

Interrogatory: Please provide a list of the different kinds of incremental capital investments and operational measures that can be used to reduce transmission losses (e.g. voltage control, generation siting, dispatch, identification of incremental line or equipment investments, expansion of demand response, etc.). For each measure, please indicate whether the IESO or Hydro One is primarily responsible for (a) seeking, (b) identifying, and (c) assessing potential cost-effective measures to reduce transmission losses.

Interrogatory No. 5.4-ED-14

Reference: Exhibit C-1-1, p. 3

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

a) Annual transmission losses (TWh);

b) Annual transmission losses (TWh) as a percent of total annual transmission throughput volumes (TWh);
c) Total annual cost of transmission losses to consumers; and
d) Total annual cost of transmission losses to consumers per TWh of total annual transmission throughput volumes.

If the ongoing transmission losses analysis has not yet reached the point at which the IESO is comfortable responding to this interrogatory, please indicate when in the future the IESO would expect to be able to provide a response.