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via e-mail and RESS

Ms. Nancy Marconi
Registrar
Ontario Energy Board
PO Box 2319
2300 Yonge Street, 27th floor
Toronto, ON M4P 1E4

Dear Ms. Marconi:

Re: EB-2018-0278, Activity and Program-based Benchmarking: Enhancements Initiative

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On February 25, 2022, the Ontario Energy Board ("OEB") announced changes to the Activity and Program-based Benchmarking ("APB") framework. The letter set out the specific changes made to certain unit cost metric calculations and identifies the necessary additional data points. The OEB requested completion of a data survey for the 2018-2020 fiscal years, on a best-efforts basis.

With this letter, Toronto Hydro submits the requested information. However, in submitting this data, the utility would like to highlight two important considerations:

1. Toronto Hydro's distinct system characteristics and operating conditions of serving a dense and congested urban environment makes its data highly susceptible to unique cost drivers and unit cost variability. To ensure appropriate comparisons are being drawn, Toronto Hydro's data should be compared against urban utilities of similar size and location within North America, consistent with past benchmarking analyses (e.g. PSE Total Cost Benchmarking and UMS Unit Cost Benchmarking) filed by Toronto Hydro as part of its major rate applications.
2. Data aggregation can distort accurate comparison of some unit costs because aggregated data does not account for location and other project specific factors which can materially affect unit cost trends. For example, the transformer asset class includes both transformers in the overhead or underground system, as well as submersible transformers within Toronto Hydro's distinct underground network system.

Toronto Hydro's has a diverse and distinct distribution system and operating conditions

Toronto Hydro's service territory can be divided into two geographic areas:

- an urban centre in downtown Toronto with a high customer density and a large financial and entertainment district; and
- a suburban area around downtown Toronto with a lower customer density, colloquially referred to as the "Horseshoe" area.

The utility's distribution system consists of a mix of overhead, underground, network, and stations infrastructure. This infrastructure operates at voltages of 27.6 kV, 13.8 kV, and 4.16 kV, and includes over 60,000 distribution transformers, 17,000 primary switches, 15,000 kilometers of overhead conductors, and 13,000 kilometers of underground cables as of 2020.[1]

In undertaking its capital and operational work, the utility contends with numerous challenges and complexities that can affect unit cost performance including:[2]

- The intensification of development (such as condominium complexes, transit extensions, and community redevelopments);
- Limited space for utility equipment installation, over a century of construction by various agencies in the public right-of-way and on private properties, often with missing or inaccurate historical records;
- Coordination with other City and utility reconstruction programs; and
- A densely populated downtown core, served by a complex arrangement of equipment that is unique in its span and configuration in Ontario's distribution sector.

Toronto city ordinances, a higher cost of living, the amount of underground construction, greater volatility in customer movements, the amount of electric distribution assets, and population density, taken in totality, suggest that a more appropriate peer group for comparing unit costs may be one that consists of electric utilities operating in other regulatory environments / under other jurisdictions.[3]

Considering the foregoing, Toronto Hydro submits that the OEB should look beyond Ontario for data and insights. This approach was demonstrated in Toronto Hydro's 2020-2024 Custom IR Setting Application in both the Total Cost Benchmarking Report[4] and the UMS Unit Cost Benchmarking Report,[5] where utilities for Toronto Hydro's peer group were selected to be relevant and comparable to an electric utility of Toronto Hydro's size and complexity (including urban and rural characteristics). These include utilities such as Duke Energy, New York State Electric & Gas Corporation, Pacific Gas and Electric Company ("PG&E") for the Total Cost Benchmarking report;[6] and utilities such as ENMAX, PG&E, Southern California Edison, and Detroit Edison for the UMS Unit Cost Benchmarking.[7]

In addition, Toronto Hydro would like to highlight Ofgem's APB framework, commenced in 2005, which achieves comparability in Distribution Network Operator ("DNO") benchmarking.[8] Ofgem had to make considerable normalization adjustments to the reported data, including labour and contractor differences

[1] Toronto Hydro, 2020 Annual Information Form (March 31, 2021).
[2] EB-2018-0165, Exhibit 1B, Tab 1, Schedule 1 at page 10.
[3] EB-2018-0165, Exhibit 1B, Tab 2, Schedule 1, Appendix B at page 11.
[4] EB-2018-0165, Exhibit 1B, Tab 4, Schedule 2.
[5] Supra note 3.
[6] Supra note 4 at page 26.
[7] Supra note 3 at page 24.
[8] Electricity Distribution Price Control Review: Price control cost reporting rules - cover letter, Ofgem, April 2005, https://www.ofgem.gov.uk/sites/default/files/docs/2005/04/10708-13005a.pdf

and consider urban and rural factors. [9] Toronto Hydro submits that a similar approach would ensure accurate comparability across utilities regulated under Ontario's regime.

Data aggregation can distort accurate unit cost trends and benchmarks

Data aggregation can distort accurate comparison of certain unit costs because aggregated data does not account for location and other project specific factors which can materially affect unit costs. There are many practical considerations that lead to significantly different unit costs from project to project. Some examples include the type of work being conducted (e.g. pole replacement in Overhead Circuit Renewal versus Box Construction Conversion; padmount versus submersible versus overhead transformer replacements), field conditions (e.g. utility congestion leading to more onerous work protection requirements), design complexity (e.g. high cost of isolations in the downtown network system), execution challenges (e.g. traffic density, hours of work restrictions), and other external factors (e.g. third-party coordination). These conditions can cause significant variability in unit costs from one year to another. Toronto Hydro's own UMS unit costing approach, filed as part of its last rate application,[10] highlighted unit cost variances between overhead and underground transformers of over $10,000. Moreover, the study showed that from year to year there can be material variances between asset quantity installations by system (i.e. overhead or underground) which can further distort the unit cost trend.[11] For all the reasons stated above, Toronto Hydro respectfully submits that aggregated data poses significant accuracy challenges and therefore the OEB must be mindful when relying upon this data to ensure that it does not paint a distorted picture of a utility's cost performance.

If the OEB does intend to use this data for the purpose of benchmarking cost performance, Toronto Hydro submits that the data should be adjusted to ensure results are accurate and useful. In Toronto Hydro's experience, rigorous unit cost analysis requires appropriate adjustments to underlying data, including the removal of statistical outliers from the dataset and careful consideration of the allocation of specific units to years, especially for units that result from capital projects that span multiple years. These adjustments can only be performed by analyzing project-level data.

Respectfully,

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Toronto Hydro-Electric System Limited

[9] Table 4.2 of Ofgem's RIIO-ED1 Final Determinations: Expenditure Assessment document showed that there were £639m of normalization adjustments applied to the data before carrying out the disaggregated cost benchmarking or as qualitative adjustments to the benchmarking.
[10] Supra note 4.
[11] EB-2018-0165, Interrogatory Response U-AMPCO-116, Appendix A.