October 7, 2022

VIA RESS

Ontario Energy Board
P.O. Box 2319,
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
Attention: Registrar

Dear Ms. Marconi,

Re: Toronto Hydro-Electric System Limited ("Toronto Hydro")
Application to Finalize 2023 Electricity Distribution Rates and Charges
Board File No. EB-2022-0065

We are counsel to the Distributed Resource Coalition ("**DRC**"), a group of electricity customers and consumers that consists of end-use residential customers, non-profit organizations, and owners' associations that are directly affected by and interested in (i) optimizing existing energy assets, (ii) efficiently facilitating the integration of existing and innovative distributed energy resources ("**DERs**"), including electric vehicles ("**EVs**"), to achieve customer and grid solutions, and (iii) providing input on direct customer needs and local distribution company opportunities relating to EVs.

DRC wishes to ensure that the Board and Toronto Hydro continue to consider the impacts of the increasing uptake of EVs and enhanced electrification on Toronto Hydro's load and demand forecasts and that these issues are central to Toronto Hydro's consultations and engagement with customers in this proceeding and in Toronto Hydro's upcoming rate setting application.

Increasing Uptake of EVs and DERs. As of the end of the fourth quarter of 2021, EVs (including zero emission vehicle (**ZEV**), battery electric vehicles (**BEV**), and plug-in hybrid electric vehicles) had a penetration rate of 11.8% (up from 7.6% in 2020), with continued growth across most provinces.[1] The 2021 national market share of internal combustion engine vehicles dropped 4.2% relative to its 2020 level.[2] In 2020, a total of 10,515 (1.8%) new vehicles registered in Ontario were ZEVs.[3] The City of Toronto's EV Strategy sets an ultimate goal of 100% of light-duty vehicles being zero emitting by 2050, with interim targets in 2025 (5%), 2030 (20%) and 2040 (80%).[4] A recent report published by the IESO forecasts that DERs are expected to contribute between 1.7-

[1] IHS Markit, "Automotive Insights – Canadian EV Information and Analysis Q4 2021", available online at: https://ihsmarkit.com/research-analysis/automotive-insights-canadian-ev-information-analysis-q4-21.html.
[2] *Ibid.*
[3] Statistics Canada, "Zero-emission vehicles in Ontario, 2020", (22 April 2021) available online at: https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2021031-eng.htm.
[4] City of Toronto, Electric Vehicle Strategy (December 9, 2019), available online at: https://www.toronto.ca/wp-content/uploads/2020/02/8c46-City-of-Toronto-Electric-Vehicle-Strategy.pdf.

4.3 GW of capacity and that DER nameplate capacity will increase to between 13-25 GW by 2032. Further, DERs have the potential to provide 39%-62% of Ontario's incremental summer capacity needs over the next decade.[5]

Enhanced Electrification. The IESO forecasts that there will be 6.6 million EVs in Ontario by 2042, with an annual charging demand of 24.4 TWh and a peak demand of 1,200 MW.[6] Toronto Hydro notes in its June 2022 Climate Action Plan Status Report that it expects that its Climate Advisory Services model will help deliver projects resulting in approximately 50,000 electric vehicle (EV) chargers, 60,000 building retrofits and 300,000 DERs (almost entirely solar photovoltaic (PV) and energy storage) by 2040.[7] EV-related growth and integration are resulting in fundamental changes to the distribution grid that will impact several aspects of the electricity system, including electricity supply and demand, customer preferences, capital expenditures, operations and maintenance, load and productivity. The IESO's report on Ontario's DER potential notes that electrification provides opportunities for EV managed charging, storage, and supply, space and water heating control, and industrial load flexibility, and increases grid peaks and energy needs, amplifies opportunities for capacity resources, and supports the growth of new and large loads responsive to demand flexibility.[8]

DERs and EVs provide numerous cost-effective system and consumer benefits including: (i) economic benefits (optimized generator operation, deferred generation capacity investments, reduced ancillary service cost, reduced congestion cost, deferred transmission capacity), (ii) reliability benefits (reduced sustained outages, reduced momentary outages, reduced sags and swells), and (iii) environmental benefits (reduced GHG emissions, lower atmospheric pollution). Taking actions that enable DERs will ensure that the full potential of DERs to provide much needed capacity and energy will be achieved over the next decade.

The impacts of increasing EV uptake and enhanced electrification on Toronto Hydro's load and demand forecasts and the importance of these trends in Toronto Hydro's consultations and engagement with customers are key issues for DRC. We wish to ensure that these issues are fully and diligently canvassed.

Sincerely,

Lisa (Elisabeth) DeMarco

c. Deniz H. Oktem, Toronto Hydro
Wilf Steimle, Electric Vehicle Society
Cara Clairman, Plug'n Drive

[5] IESO "Ontario's Distributed Energy Resources (DER) Potential Study" Volume I: Results & Recommendations" (28 September 2022) available online: https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/derps/derps-20220930-final-report-volume-1.ashx, p. 58. (DER Study)

[6] IESO "APO: Ontario's electricity system needs: 2023-2042" (December 2021) available online: https://www.ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/apo/Dec2021/2021-Annual-Planning-Outlook.ashx.

[7] Toronto Hydro, Climate Action Plan Status Report (June 2022) available online: https://www.torontohydro.com/documents/20143/74105431/climate-action-plan-status-report.pdf/7fd07b3b-c0da-df7c-7815-2c464b5f8919?t=1658951621213.

[8] IESO, DER Study, p. 77.