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January 25, 2019

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
PO Box 2319
2300 Yonge Street, 27th floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

**Re: Report of the Advisory Committee on Innovation to the OEB – Submissions of
Toronto Hydro-Electric System Limited
Board File No: EB-2018-0287**

On November 21, 2018, the Advisory Committee on Innovation provided its Report to the Chair of the OEB (the “ACI Report”). As part of this release, on November 22, 2018, the OEB invited stakeholders to attend a Stakeholder Forum on January 16, 2019, and submit any written comments on the recommendations in the ACI Report. Toronto Hydro attended this session.

Attached please find the comments and submissions of Toronto Hydro-Electric System Limited (“Toronto Hydro”) on this issue, which address the three questions posed in the November 22 letter and other related points.

Innovation Today

“Innovation... is implementing something fresh – either new or improved – to create value.”

- ACI Report, pg 2

Toronto Hydro agrees with the ACI Report’s description of innovation in the quotation above. It is both broadly scoped and outcome-focused, the thoughtful and creative application or re-application of solutions to generate tangible benefits. Toronto Hydro observes that as a practical matter, while innovation is often thought of simply as new technology, it is also the case that improvements in equipment, systems, processes, services and rules can all be the subject of innovative discovery and enhancement.

In the context of approvals from the Ontario Energy Board (“OEB”), Toronto Hydro has pursued this approach to innovation for some time. For example, the utility’s Local Demand Response (“DR”) project at Cecil TS is successfully deferring station upgrades through a novel aggregation of battery storage and CDM. This non-wires alternative (“NWA”) solution funded through a blend of cost-

effective capital and operational spending is successfully delaying the need for much larger capital investment at that location, to the benefit of ratepayers through lower costs in the near and medium term.

Additionally, Copeland TS, which delivers much needed capacity relief to downtown Toronto, is only the second underground transmission station in Canada. The design minimizes the station's physical footprint on the surrounding area and the heritage site under which it is built, to the significant benefit of the local community and the millions of visitors who attend the adjacent provincial sports and entertainment hub. Toronto Hydro's operation of transmission assets is innovative generally when compared to many other utilities in Ontario, producing operational benefits for the utility that allow it to serve customers better.

Toronto Hydro also pursues innovation in many other aspects of its operations. A recent facilities consolidation optimized the use of operating centres, allowing the utility to sell surplus property and generate nearly \$150 million in savings returned to customers through bill reductions. The utility's Worst Performing Feeder initiative improves reliability for customers experiencing frequent outages using a creative combination of short-term interventions and planned renewal work.

Toronto Hydro also develops sophisticated tools to support a risk-based approach to renewing and enhancing its distribution system. One example is the Feeder Investment Model, which provides a probabilistic, total lifecycle assessment of costs and risks to help Toronto Hydro weigh the benefits of investment deferral against the incremental costs to interrupted customers and reactive asset replacement. Finally, Toronto Hydro is a leader among Ontario utilities in cybersecurity readiness in an age when nefarious actors can and have targeted utilities across the globe.

Each of these improvements responded to customer needs and preferences, generated value for customers and, in many cases, cost savings.

Innovation Tomorrow

"Flexible demand, small distributed generation, fuel switching, energy storage, software solutions, advanced power electronics, and increasingly economic information and communication technologies are also providing utilities with new means to serve their customers."

- ACI Report, pg 1

Toronto Hydro intends to continue on this trajectory into the future because of the many pressures facing its distribution system and the utility's commitment to better serving its customers. It operates in a mature, congested urban environment that is intensifying and experiencing customer growth in many areas, requiring frequent coordination with other municipal and utility programs. Its distribution plant continues to age, necessitating proactive renewal to prevent further deterioration of reliability, safety and other outcomes driven by asset failure. The increasing occurrence of extreme weather is now also a driver of how Toronto plans and executes its infrastructure plans and responds to emergencies. And the utility's workforce is in the midst of significant renewal driven by demographics.

Innovation is part of how Toronto Hydro will face these challenges and create new opportunities. It plans to continue Local DR at Cecil TS, and to apply this NWA approach to a second transmission station. In doing so, the utility expects to defer \$135 million in capital investment that would otherwise be needed to avoid reliability risks and meet its obligations to its customers.

The utility is also proposing an innovative Energy Storage Systems program to put batteries to use for the benefit of customers where this type of non-wires option is the best solution to enable or improve distribution service. Mitigating voltage sags, providing voltage support, improving phase balancing and efficiency and achieving reliability and power quality improves can all form part of the value proposition of energy storage implemented in this fashion.

Finally, Toronto Hydro plans to deploy monitoring and control technology more widely across its system. In addition to allowing the utility to continue connecting distributed generation to the grid, these innovative technologies can be used to restore power more quickly or take action before an outage even occurs, to the benefit of Toronto Hydro's customers. Monitoring and control equipment received a particularly high degree of support in the utility's recent Customer Engagement process.

Bridging Innovation from Today to Tomorrow

"This Advisory Committee on Innovation was asked by the Chair of the Ontario Energy Board (OEB) to identify actions the regulator could take to create an environment to support innovation that brings value to customers."

- ACI Report, pg 2

Toronto Hydro respectfully submits that the OEB has appropriately framed the issue of innovation in its initial mandate to the ACI. The ACI's mandate was broad and oriented squarely toward solutions to real-world challenges encountered every day by the OEB, the utilities it regulates, and the customers both organizations serve. However, the ACI Report focuses primarily on DERs.

Toronto Hydro encourages the OEB to reinforce this broader construct of innovation that is focused on value. Fuel switching in transportation, for example, is an innovation that does not fall within the scope of DERs (although it may, in some incarnations, include DERs). Toronto Hydro submits that focusing solely on DERs at this nascent stage risks overlooking opportunities for innovation that are being driven by customers, pursued by utilities, and generate demonstrable value including cost reductions and avoided costs.

What's more is that identifying a technology and then determining the regulatory changes to enable it to suit the public interest is at odds with the OEB's mandate and general approach to developing regulatory policy. Much of the consternation that arose at the time of, and in the years since, the *Green Energy Act* was to presuppose the merits of specific technologies and then create customized rules to make them work. While Toronto Hydro agrees that DERs can often help solve challenges, as evidenced in many of its innovations noted above, it is concerned that a number of the conclusions in

the ACI Report are focused not on the broader analysis of the role of innovation, but rather on enabling specific types of resources. Toronto Hydro respectfully encourages the OEB to attend to the bigger picture.

Next Steps for the ACI Report and the Broader Regulatory Treatment of Innovation

“[T]he regulatory framework currently in place is not broken.”

- ACI Report, pg 2

“A thoughtful and transparent process of regulatory change can actually alleviate risk of sector disruption.”

- ACI Report, pg 3

Within a narrowed framework, Toronto Hydro agrees that there is value to developing regulatory policies specific to DERs. In doing so, Toronto Hydro respectfully encourages the OEB to ensure that policy options considered in this initiative are scoped to address DERs only. Policies that are demonstrably consequential to matters beyond DERs – such as a wholesale renovation of the regulatory ratemaking framework and remuneration system – should be dealt with through a broader consultation on innovation and regulatory reform as we have suggested above. Those topics require a much more comprehensive consideration of the sector landscape than was ultimately undertaken by the ACI.

With respect to DERs specifically and innovation more generally, Toronto Hydro agrees with the ACI that the OEB adopt a risk-based approach to policy evaluation. Many of the ACI Report’s recommendations contemplate a broad array of potential policy treatments. The extent to which they could be destabilizing or have other negative consequences (however unintended) was not the subject of the ACI Report and warrants detailed consideration through an OEB-led process.

A risk-based approach could begin by considering how best to use or adapt existing processes, rules or other tools. The examples of Toronto Hydro’s innovations described earlier are noteworthy because they have been, or are in the process of being, applied for and approved through the current regulatory framework and conventional regulatory procedures. The projects were not harmed by undergoing thorough vetting by the OEB, customer advocacy groups and other experts through an open and public process. Their integration into utility business plans (including Distribution System Plans) filed as part of comprehensive application evidence supports an outcomes-based orientation that is aligned with the *Renewed Regulatory Framework*, as introduced in 2012 and steadily evolving since. These are proven means by which the OEB can ensure that innovation is enhancing efficiency, cost-effectiveness and value enhancement to the benefit of electricity customers.

As part of a stable regulatory regime oriented to continuous improvement, Toronto Hydro supports change and evolution of regulatory systems and frameworks, and agrees that enhancements can and should be made. Toronto Hydro supports an approach rooted in the following process: a fact-based investigation of whether a problem with the current regulatory model exists; if it does, defining that

problem; identifying alternative solutions; clearly analyzing the costs and benefits of those various solutions; and, making a transparent decision to change, with adequate advance notice.

Toronto Hydro respectfully submits that a commitment to empirically-driven analysis that objectively weighs costs and risks against the potential benefits will be a necessary component of achieving a successful regulatory framework for DERs. Changes to regulatory models can and often do drive incremental costs for customers and investors, as can stranded costs or negative responses from capital markets. Further, changes that have the potential to impact reliability or public and employee safety must be considered in light of the fundamental obligations that both the OEB and utilities have to customers. Toronto Hydro submits that analyzing and mitigating risks such as these is not antithetical to innovation. To the contrary, it is the appropriate path to ensuring customers are adequately protected and investors continue to have confidence in the sector while innovation occurs.

Toronto Hydro supports leveraging the experience of jurisdictions as part of this empirical exercise, accounting for differences between those jurisdictions and Ontario, as applicable. This may include examining whether and to what degree the goals and objectives of those jurisdictions are aligned with Ontario's own needs.

Finally, Toronto Hydro believes that the OEB's long-standing principles of open and transparent public proceedings that allow for a fair, rigorous and constructive dialogue should be maintained through this process and in any policy change that flows from it. Toronto Hydro respectfully encourages the OEB to allow participants ongoing opportunities to shape or adjust the procedural steps to account for the noticeably broad set of stakeholders with interests in this consultation.

Toronto Hydro looks forward to being an active and constructive participant, and it thanks the OEB in advance for its consideration.

Sincerely,

[Original signed by Andrew J. Sasso]

Andrew J. Sasso

Director, Regulatory Affairs

Toronto Hydro-Electric System Limited

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