

Feedback Form

Transmission-Distribution Coordination Working Group (TDWG) – February 27, 2023

Feedback Provided by:

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Specific Questions for Comment/Feedback

Topic	Feedback
<p>TDWG Scope</p> <p>Any feedback on the IESO's proposed continued scope for the TDWG?</p> <p>Any suggestions for additional topics for the continued scope?</p>	<p>See general comments / feedback section.</p>
<p>EPRI's Presentation</p> <p>Any feedback on EPRI's presentation on T-D coordination protocol for a Total DSO Model?</p>	<p>The IESO is encouraged to explore the Total DSO coordination protocol with the same level-of-detail as the Dual Participation protocol to ensure that both models are evaluated equally, and a best path / least regrets solution is optimized. To inform this exercise, Toronto Hydro encourages the IESO to share EPRI's DER Scenarios & Modeling Study and accompanying analysis with the TDWG.</p>

DER as NWAs

In your assessment, how significant is the opportunity to use DER as NWA?

What do you expect the scale and pace to be? What distribution-level services do you envision emerging?

Do you have existing plans to use DER as NWAs?

In your assessment, how significant is the opportunity to use DER as NWAs?

For more than a decade, Toronto Hydro has been a leader in connecting and integrating DERs into its distribution system and is a leading innovator of Non-Wires Alternatives.

As identified in the OEB's Framework for Energy Innovation ("FEI") report, DERs have the potential to provide multiple value opportunities, from those that benefit participating customers who adopt them, through to the bulk, transmission, and distribution system networks, and society more generally.

From a distribution perspective, the opportunity DERs can provide vary considerably, depending on the station (or sometimes the bus) they connect to. Examples of how utilities could use DERs as NWAs include but are not limited to deferring capital investment for station expansions, avoiding distribution losses and alleviating constraint management and power quality issues.

What do you expect the scale and pace [of DER proliferation] to be? What distribution-level services do you envision emerging?

The scale and pace of DER proliferation will be determined by a multitude of factors including market forces, consumer adoption, and regulatory and market design, and associated incentive. It will also depend on implementing new distribution capabilities that are necessary to connect and integrate these resources onto the grid.

Toronto Hydro notes integrating DERs for NWAs purposes or other leading-edge applications is a considerably different exercise when DER penetration is low compared to when it is high, as many are forecasting it will be. This will lead to increasing expectations that utilities will play a greater role integrating DERs into new, varied and concurrent opportunities.

As the IESO is aware, distribution grids have been optimized for the one-way delivery of safe and reliable electricity to passive energy consumers. At high-levels of adoption, DERs can violate finely tuned protection schemes that were put in place to enable the highly reliable and resilient electricity service that customers expect.

To overcome these challenges, utilities must deploy more in-field technologies, communications infrastructure, and automated control platforms to deliver a step-change improvement in the visibility and real-time control of the distribution system, including visibility and control of behind-the-meter assets. Building on these technology enhancements, utilities must also develop

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	<p>enhanced tools and planning processes to lower deployment time and facilitate more flexible and efficient connections for customers, minimizing operational and technical bottlenecks. These same investments should be understood as necessary and foundational to the eventual establishment of matured local opportunities for DER services. This more mature state could see utilities moving beyond the case-by-case deployment of NWAs today, to a more standardized and automated approach that can function at scale in the future.</p> <p><i>Do you have existing plans to use DER as NWAs?</i></p> <p>Toronto Hydro has been using DERs and NWAs for some time. The utility’s Local Demand Response project at Cecil Transformer Station was approved by the Ontario Energy Board (“OEB”) in its 2015 to 2019 CIR application and successfully deferred station upgrades through a novel use contracted Demand Response (“DR”) and front-of-the-meter battery storage. Toronto Hydro’s subsequent Distribution System Plan filed as part of its 2020 to 2024 Distribution Rate Application included proposals to expand its NWA application. In Toronto’s most recent IRRP, NWA opportunities were frequently considered as a potential resource and Toronto Hydro was identified as the entity that should coordinate NWAs as potential solutions.</p> <p>Currently, Toronto Hydro is procuring resources in the southwest end of city through its Dual Participation Pilot in partnership with Power Advisory LLC and Toronto Metropolitan University’s Centre for Urban Energy (CUE). This pilot project, supported by the OEB and funded through the IESO’s GIF, is exploring how to effectively and efficiently procure and deploy DR capacity to address overlapping distribution and transmission system level needs. The pilot project expects to provide insights into the potential benefits of creating a new market participation pathway that enables the same DER to provide services to the bulk system as well as the distribution system.</p>
<p>Alectra’s Presentation</p> <p>Any feedback on Alectra’s presentation re: a distributor perspective on protocol for Dual Participation model?</p>	

General Comments/Feedback

Toronto Hydro appreciates the IESO's commitment to sector evolution and the efforts of IESO staff to enable new pathways for DER participation in wholesale markets. As a leading enabler of non-wires alternative solutions at the distribution level, Toronto Hydro notes LDCs are uniquely positioned to enable DER integration, given the visibility into distribution system needs and hosting capacity, as well as customer relationships.

Ontario requires a well-coordinated and, ideally, model-agnostic approach to enable DERs. Toronto Hydro recognizes the IESO has a condensed timeline to develop conceptual coordination protocols. While Toronto Hydro understands the IESO is trying to establish the necessary protocols to integrate DERs at the wholesale level before IESO-contracted DERs come off contract mid-decade, we strongly endorse a continued commitment to collaboration to ensure other models that could optimize ratepayer value, can be enabled. This is especially important as the IESO contemplates enhanced wholesale DER participation models in the future. The strong relationship Toronto Hydro maintains with the IESO through the Dual Participation Pilot offers opportunities for learnings that could continue to be leveraged by this forum, and we support that going forward as part of the TDWG's continued scope-of-work.

In adopting proposed dual participation protocols in the near-term, Toronto Hydro encourages the IESO to take steps to ensure there is no bias or restrictions to adopt more optimal models in the future, and appreciates the IESO's commitment to remain "very open to adapting the dual participation model and other elements of its market design, as needed"¹. Toronto Hydro continues to look forward in partnering with the IESO in developing its GIF Benefit Stacking Transmission and Distribution Pilot, and encourages the IESO to utilize these "real-world" learnings as it considers protocols for foundational and enhanced DER participation models in the future.

** Disclaimer: Toronto Hydro is not a member of the Electricity Distributors Association ("EDA")*

¹ T-D Coordination Working Group, February 27, 2023 Meeting Notes.