By RESS

July 22, 2024

Mr. Ritchie Murray
Acting Registrar
Ontario Energy Board
PO Box 2319
2300 Yonge St., Suite 2700
Toronto, ON, M4P 1E4

Dear Mr. Murray:

Subject: Distribution System Operator Capabilities – Stakeholder Consultation - OEB File No. EB-2025-0060

Hydro Ottawa Limited (Hydro Ottawa) appreciates the invitation to comment on the OEB's stakeholder consultation on Distribution System Operator Capabilities.

Please see Appendix A attached, which provides Hydro Ottawa's comments regarding the OEB's Discussion Questions on this matter.

Hydro Ottawa looks forward to continued dialogue with the OEB on this important initiative.

Sincerely,

Signed by:
April Barrie
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April Barrie
Director, Regulatory Affairs
Directeur, Affaires réglementaires
AprilBarrie@hydroottawa.com
Tel./tél.: 613 738-5499 | ext./poste 2106
Cell.: 613 808-3261

INTRODUCTION

Hydro Ottawa welcomes the opportunity to provide comments on the OEB's Distribution System Operator Capabilities Discussion Paper and Consultant Report.

Hydro Ottawa is encouraged by the OEB's exploration of Distribution System Operator (DSO) opportunities. However, a critical and recurring theme emerging from industry discussions is the urgent need for a clear roadmap. Rather than offering immediate solutions, this roadmap must address emerging questions and outline a collaborative process for implementing the Government's objectives. A detailed and transparent roadmap will enable all parties - utilities, technology providers, customers, the OEB, and the IESO - to align their efforts, make informed investments, and collaboratively work towards the successful realization of Ontario's evolving energy future.

1. **What are your views on the opportunity and policy objectives for DSO capabilities?**

Hydro Ottawa supports the Ontario Energy Board's facilitation of distributed energy resources (DERs) as non-wires solutions (NWSs), including the development of a framework for Distribution System Operator (DSO) opportunities. The energy transition is underway, and Local Distribution Companies (LDCs) require a regulatory environment that provides them with the necessary tools and funding to manage the growing demand for their services. Hydro Ottawa views the OEB's examination of a DSO framework as a step in that direction.

In May 2025, the OEB published a Discussion Paper ("the Paper") examining DSO capabilities. In the paper, OEB staff provide a conceptual framework for a DSO model in Ontario, assessing the legal and regulatory hurdles the industry faces.

Hydro Ottawa's view is that the OEB's discussion paper excludes important considerations of the technical complexities and costs distributors will face when implementing DSO capabilities. Specifically, the paper does not focus on DSO operational details from the perspective of an LDC, including technology, interoperability, coordination, engineering, and labour upskilling.

The report also discusses "low-regret steps" and taking a "graduate approach" to implementing DSO capabilities amongst LDCs. However, by not sufficiently detailing the LDC perspective, the Paper overlooks the substantial progress already made within the industry. Hydro Ottawa, for instance, is already engaged in various DSO activities as described in the Paper, including planned investments in Advanced Distribution and Management System (ADMS), Distributed Energy Resource Management Systems (DERMS), load disaggregation, load forecasting, advanced planning, and advanced metering infrastructure. These are critical technological enablers for more advanced DSO models. By focusing less on LDCs, the report overlooks the current industry progress, risking the development of redundant or misaligned policies that fail to

leverage existing industry advancements and historical investments, potentially hindering an efficient evolution of DSO capabilities.

Furthermore, Hydro Ottawa views DSO adoption as a fundamentally technical process, necessitating urgent wholesale market coordination between LDCs and the IESO. From the utility's operational perspective, a DSO model could lower the risk of the IESO dispatching DERs for bulk system needs, potentially causing congestion or voltage imbalances on the LDC network. Without proper coordination, attempts to achieve economic efficiencies by limiting current spending through the choice of a limited DSO model will be hindered. Hydro Ottawa's DER programs deliver local benefits, and the focus should remain local. Therefore, establishing coordination between the IESO and LDCs should be a priority of the OEB.

Recommendation #1: To ensure the OEB's framework is grounded in operational conditions and effectively leverages existing industry progress, Hydro Ottawa recommends that the OEB prioritize LDC operational discussions, actively involving LDCs in these dialogues. Such discussions should specifically identify the practical steps LDCs must undertake to efficiently leverage DERs, including T-D interface coordination, in order to achieve an efficient, safe and reliable grid.

2. **What are your views on the use cases and value of DSO capabilities for Ontario, including the importance of DSO capabilities in capturing more of the benefits DERS can provide?**

Hydro Ottawa views DSO use cases as crucial for addressing immediate and growing grid complexities and constraints. When effectively coordinated for benefit stacking, their value lies in enabling a more efficient and reliable integration of DERs. DSO capabilities are therefore essential for capturing the full benefit of DERs by moving beyond integration to active optimization. Active optimization can address emerging risks to the distribution network, including congestion, grid reliability, and efficient integration. In this respect, the utility supports NWSs as a mechanism for navigating the energy transition while providing more value for its customers.

3. **How should the OEB's objectives (as set out in Section 1 of the OEB Act) be balanced and reflected in the development of the DSO policy framework for Ontario?**

Informing Consumers and Protecting Interests

Hydro Ottawa views the protection of consumer interests as inherent to ensuring grid reliability. To this end, the DSO framework should focus on the development of technical standards for DER interconnection and data sharing, including wholesale market visibility and coordination with LDCs. DSOs must be empowered to lead in the activation of their local DERs and coordinate effectively with the IESO. Without proper consideration of the intrinsic relationship between the local market, DERs, and the IESO programs and markets, the OEB risks

compromising consumer grid reliability through potential issues like congestion and voltage imbalances.

Promoting Economic Efficiency and Cost Effectiveness
Hydro Ottawa supports advanced DSO capabilities within the context of appropriate policy and funding support from the OEB. The utility believes that a DSO policy must adopt more advanced DSO models to realize its full economic efficiency and cost-effectiveness potential. Specifically, prioritizing the development of clear rules of IESO coordination/DSO coordination. Hydro Ottawa also recommends that the OEB explore a Performance Incentive Mechanism framework that encourages the adoption of DSO models and incentivizes NWS.

Promoting Electricity Conservation and Demand Management
Hydro Ottawa views the evolution of DSO capabilities as a significant opportunity to enhance and enable local demand-side management, including the integration of smart meters and controllable loads. These opportunities will need to be coordinated with wholesale market or bulk system dispatches for load reduction in the near term, thereby preventing any localized system issues and allowing LDCs to leverage dispatchable resources as NWS. The upcoming "Stream 2" provincial funding mechanism will help optimize the use of these resources to meet provincial and local energy demands, save customers money, and potentially increase system capacity and resilience.

A current example of this kind of opportunity is the IESO's proposed Commercial HVAC DR Program. There is a lack of available detail as to whether LDCs, within the IESO's program as summarized during stakeholder presentations, will have a meaningful role in orchestrating the dispatch of assets on the distribution system to meet the operational needs of both entities and safeguard local system safety, reliability, and efficiency. This program could serve as a use case for operational collaboration between the IESO and LDCs for flexible resources.

Facilitating innovation
Hydro Ottawa supports fostering DSO innovation through industry pilots, such as through the OEB's Innovation Sandbox. A key priority for these innovation endeavours should be addressing the existing transmission-distribution coordination gap, exploring interoperability, and data-sharing capabilities.

4. **Is an evolutionary approach to developing DSO capability appropriate for Ontario to pursue in order to achieve the policy objectives set out in the Staff Discussion Paper?**

Hydro Ottawa supports an evolutionary approach to developing DSO capabilities in Ontario, aligning with the policy objectives outlined in the Paper. This approach must explicitly consider the current technological capabilities of LDCs, how these capabilities integrate into a broader DSO framework, and the necessary pace of LDC progression.

Hydro Ottawa, like many other LDCs, has already undertaken significant steps needed to support the grid to support the adoption of DSO capabilities, including:

- Investments in DSO tools and capabilities: Hydro Ottawa has invested in ADMS, DERMS, and advanced metering infrastructure. The utility also performs load disaggregation, load forecasting, and advanced planning to manage an increasingly complex grid.
- Non-Wires Solutions Integration: The utility incorporates NWS alternatives into its business case analyses, to ensure NWS are economically viable and benefit ratepayers.
- Non-Wire Solutions Procurement: The utility is actively developing its NWS assessment process and moving towards practical, real-world implementation of cost-effective NWS.
- Demand-Side Management Coordination: The utility is actively coordinating with the IESO on DSM Stream 1 activities to augment participation in energy efficiency programs and identifying NWS opportunities that may be eligible for DSM Stream 2 collaboration.
- Leveraging the IRRP Process: Hydro Ottawa uses the Integrated Regional Resource Plan (IRRP) process to assess the viability of its NWS program and procurement strategies in addressing capacity issues.

These demonstrated efforts provide Hydro Ottawa with extensive experience and insight into the foundational elements of DSO models, which can inform the OEB on LDC readiness and the operational complexities associated with future DSO capabilities.

Recommendation #2: The OEB should establish a clear roadmap for this evolutionary path. This roadmap should be developed through a joint OEB-LDC-IESO dedicated working group, tasked with transparently quantifying existing gaps in DSO capabilities and proposing new shared mechanisms. This working group should also include other relevant stakeholders, such as DER providers and aggregators, to ensure a comprehensive and collaborative approach.

5. **What are your views on each of the three proposals presented in the Staff Discussion Paper?**

Hydro Ottawa observes that participants at the OEB's presentation day seemingly interpreted the three proposals differently. Hydro Ottawa recommends that the OEB provide clarification on the scope of the three proposals.

Hydro Ottawa recommends that the OEB prioritize **Proposal 3:** an advanced market facilitator DSO model (MF-DSO) that prioritizes operational coordination between wholesale and distribution grids. The utility does not believe that legal separation is needed to achieve many of the OEB's stated objectives; such separation may incur substantial costs for the industry without a clear corresponding benefit, creating new costs that would need a shared mechanism for all participants who utilize the DSO. Instead, Hydro Ottawa supports a functional separation (distinct operations within the same legal entity), which aligns with the current needs of the MF-DSO model and facilitates timely implementation.

Hydro Ottawa believes that the MF-DSO is necessary for the effective adoption and integration of DERs. Proposal 3 establishes the necessary conditions for managing current and future grid complexities brought about by DERs by pursuing advanced capabilities and offers a framework beyond the BCA that encourages DER uptake. The Paper and the DNV report highlight the benefits of the advanced DSO models, such as improved information sharing between the IESO, DSO, and DER/aggregators, active management of the distribution system, local flexibility markets, and system indicator development. Hydro Ottawa considers all these programs as prerequisites for effectively managing an electrified future.

That being said, if Proposal 3 were to be chosen, Hydro Ottawa notes that further granularity of these topics will be needed to assess operational needs. This includes the need for clarity regarding the role of load forecasting and whether its primary responsibility should reside with the LDC.

If the OEB defers Proposal 3, Hydro Ottawa prefers **Proposal 1:** requires distributors to assess the need for DSO capabilities to be implemented to address system needs. Proposal 1 would facilitate the assessment of current and future needs to inform DSO frameworks flexibly and collaboratively. However, the OEB must ensure that the process is expeditious to prevent LDCs from being delayed in their ability to pursue grid modernization investments or more advanced DSO capabilities.

Finally, Hydro Ottawa does not support **Proposal 2:** Develop a simplified DSO model. This position is rooted in the belief that such a default model offers the least flexibility to assess the diverse landscape of LDCs across Ontario. Rather, the approach to DSO should effectively leverage the unique strengths and address the specific challenges of individual LDCs. By potentially locking all Ontario LDCs into a model that provides minimal benefits, it could inadvertently hinder optimal grid evolution and restrict the full potential of DER integration. Rather, Hydro Ottawa believes the focus should be on defining the minimum technical and operational requirements for a functional DSO, allowing for a more adaptable and effective framework.

6. **How should the OEB best balance the benefits of a standard approach relative to the innovation and insights that could be gleaned from enabling greater flexibility and diversity through experimentation?**

The OEB can best balance the benefits of a standard approach with the need for innovation and diverse insights by adopting a technically informed, evolutionary approach to standardization, developed through comprehensive stakeholder consultation.

Specifically, the OEB should champion innovation and experimentation by pursuing the advanced DSO model stream (proposal 3). Proposal 3 proposes to assess the complexities of advanced DSO, which will consequently lead to greater insights and potential for innovation.

Advanced DSO models involve complex technical considerations, such as data exchanges, information technology integration, cybersecurity, and data harmonization. Examining LDC's current capabilities and opportunities within this framework will allow for better dissemination of best practices and provide a foundation for innovation.

Once the OEB has established its standardized framework, flexibility should be given to DSOs to pursue further innovation. A critical component of this standardization and innovation will be the seamless integration of the wholesale market coordination with the DSO, requiring DSOs to have clear visibility into wholesale market activation and DSM practices to optimize their local market operations.

To achieve this, as noted above, it is imperative that foundational planning and operational capabilities are in place for any viable DSO model. As a result, a comprehensive roadmap should be created informed by stakeholder engagement.