



DECEMBER 14, 2023

# TDWG Meeting #10 Introduction

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# Today's Agenda

The agenda for today's meeting is:

- Introduction materials ('housekeeping') [10 min]
- Deliverable A: Presentation on IESO T-D related reliability [45 min]
- Break [10 min]
- Deliverable B1: Architecture – DSO processes / systems [45 min]

As usual, TDWG will have an opportunity to provide feedback during and following the meeting.

# Action Log

Date	Action	Resolution
Dec 8, 2023	IESO to circulate meeting notes among TDWG members by Dec 15, 2023	
Dec 8, 2023	TDWG members to provide comments and send to <a href="mailto:engagement@ieso.ca">engagement@ieso.ca</a> by Jan 5, 2024	
Dec 8, 2023	IESO to post all meeting materials to the TDWG webpage by Jan 12, 2024	
Dec 14, 2023	IESO to circulate meeting notes among TDWG members by Dec 21, 2024	
Dec 14, 2023	TDWG members to provide comments and send to <a href="mailto:engagement@ieso.ca">engagement@ieso.ca</a> by Jan 11, 2024	
Dec 14, 2023	IESO to post all meeting materials to the TDWG webpage by Jan 18, 2024	

# TDWG Overview (Recap)

- T-D coordination is needed to better integrate distributed energy resources and aggregators (DER(A)) in the IESO's wholesale market and system operations as well as in distribution networks
- Local distribution companies (LDCs), DER(A) participants, and IESO will need to share information in a timely manner and ensure there is sufficient awareness (e.g., with respect to outages, limits on DER(A), and dispatch of DER(A), etc.) among the parties
- In this context, the IESO launched the Transmission-Distribution Coordination Working Group (TDWG) in 2022 to work closely with LDCs and other stakeholders
- TDWG's objective is to support the development of operational coordination protocols
- The coordination protocol(s) are expected to form the basis of new rules and/or manuals for the IESO's wholesale market that will support the DER(A) participation

# T-D Protocol Scenarios (Recap)

- The protocols will detail the actions to be taken and data to be shared by the parties, ensuring the effective and reliable operation as DER(A):
  - participate in IESO's wholesale market (i.e., day-ahead and real-time markets post-MRP\*)
  - may provide services to the distribution system as non-wires alternatives (NWA)
- The TDWG aims to outline operational coordination for the following scenarios:

1. DER(A) providing **wholesale services** as per the IESO Market Vision Project

2. DER(A) providing services to the distribution system as **distribution NWAs**

3. DER(A) that provide **both** wholesale and distribution **services**

4. DERs that are **not** actively **participating** in any services

\* Market Renewal Program (MRP)

# Past TDWG Meetings

Meeting #	Date	Major Topic(s)
1	Jan 2022	Introductory and background materials
2	May 2022	T-D definition and coordination models
3	Jun 2022	Override, outage, and IESO market processes
4	Sep 2022	New York's coordination manual
5	Nov 2022	Draft protocol for a Dual Participation model
6	Feb 2023	Draft protocol for a Total DSO model
7	Jun 2023	DSO operational functions workshop
8	Oct 2023	Draft Deliverables statements of work
9	Dec 4 2023	Current state of communication (Deliverable B2) Definitions Workshop (Deliverable B4)

# TDWG Expected Deliverables

By the end of 2024, the TDWG will work to achieve the following:

Deliverable	Description	Leads	Sub-Group
A. Coordination Protocols	Develop implementation-ready protocols for Total DSO and Dual Participation coordination models	IESO	Hydro One, Essex, Alectra
B1. Functional Assessment	Analyze distributors' operational functions, capabilities, and costs across multiple dimensions	Toronto Hydro + Alectra	Elexicon, Rodan, NSWG*, IESO, Powerconsumer
B2. Communication Assessment	Map coordination interfaces and data exchanges for each coordination model	Hydro One	Alectra, Essex, IESO, NSWG
B3. Shared Platform Concept	Develop concept for a "one-stop" shop data sharing platform for coordination	Alectra	Hydro One, IESO, Rodan, Powerconsumer
B4. Architectural Assessment	Assess coordination models from market design, architectural, and flexibility perspectives	IESO	Essex, Alectra, Rodan

\* Non-wires Solutions Working Group (NSWG), represented by Power Advisory

# Mtg #8 Feedback – Clarity of SOWs

Feedback	Deliverable Leads' Responses
<p>Ensure that the coordination protocols being explored support both dynamic information exchange and static information exchange (e.g., DER capacity, DER ramp rate, distribution system transfer capabilities, outage planning).</p>	<p>Thank you for this feedback. Edits will be made to the SOW for Deliverable A to include a list of 'static' information required by the IESO and distributors for the purposes of operational market and system coordination (but for instance not planning and settlement). From an IESO perspective, the list of information will draw from the DER Market Vision and Design Project.</p>
<p>Functional Assessment appears to be missing what IESO operational and functional requirements will be needed to support LDCs as they transition into DSOs. Consider additional costs (at a high-level) for the IESO and DER(A) participants.</p>	<p>From an IESO perspective, the internal functional requirements for DER(A) integration will be designed and implemented as part of the DER Market Vision and Design Project. These requirements are not expected to differ materially under different T-D coordination models.</p> <p>The costs for DER(A) participants, distributors, and the IESO will be explored at a high level as part of Deliverable B4 Architectural Assessment. Edits will be made to the SOW to clarify further that multiple perspectives will be captured in the assessment.</p>



# Mtg #8 Feedback – Clarity of SOWs

Feedback	Deliverable Leads' Responses
<p>The concept and objective of the shared platform appears overly broad and not appropriately focused at this stage of development. The Shared Platform Deliverable should remain focused initially on facilitating T-D coordination and market information sharing.</p> <p>Specifically, there is concern that a shared platform would remove direct access to the IESO's market functionality and information.</p>	<p>As suggested in the statement of work (SOW) for Deliverable B3 Shared Platform, the focus of the Deliverable will be to facilitate coordination. It is also recognized that the benefits of a shared platform could go beyond coordination. To be able to assess the full merit of a potential shared platform, these other benefits need to be explored and documented at a high level.</p> <p>The shared platform would interface with existing IESO and LDC systems and processes, and the goal would be to empower DERs across all markets. The shared platform is not intended to limit access. The Deliverable Lead will work with TDWG members to understand and address this concern.</p> <p>The SOW will be edited to clarify further that coordination is the focus and access will not be limited in any manner with the shared platform.</p>

## Mtg #8 Feedback – Clarity of SOWs

### Feedback

It is encouraged to deeply investigate a variety of solutions for ownership structure of a potential shared platform in Deliverable B3.

### Deliverable Leads' Responses

We agree with the suggestion. A variety of solutions will be explored in detail. Through this engagement, we will propose different options, and outline associated benefits and challenges that exist collectively as a working group.

# Mtg #10 Feedback Questions

For Deliverable B1: Architecture – DSO processes / systems

1. Does the DSO Architecture present an accurate overview of the systems and functions required for a DSO?
2. Is there anything that is missing in terms of functions or systems that you would like to see captured?

For Deliverable A: Presentation on IESO T-D related reliability

3. Are there other aspects of bulk power system reliability that should be highlighted in support of T-D coordination protocols?

Please use the feedback form found under the Dec 14, 2023 entry on the TDWG webpage to provide feedback and send to [engagement@ieso.ca](mailto:engagement@ieso.ca) by Jan 11, 2024

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# Thank You

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