FEBRUARY 16, 2024

TDWG Meeting #11 Introduction

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Today's Agenda

The agenda for today's meeting is:

- Introduction materials ('housekeeping') [20 min]
- Process and user journey mapping [1.5 hrs]

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

Action Log [1/2]

Date	Action	Resolution
Dec 8, 2023	IESO to circulate meeting notes among TDWG members by Dec 15, 2023	Sent Dec 15, 2023
Dec 8, 2023	TDWG members to provide comments and send to engagement@ieso.ca by Jan 5, 2024	1 feedback form received
Dec 8, 2023	IESO to post all meeting materials to the TDWG webpage by Jan 12, 2024	Posted Jan 11, 2023
Dec 8, 2023	Deliverable B2 - Hydro One to follow up on use of Internet Protocol (IP) as method of communication	
Dec 8, 2023	Deliverable B4 - IESO/Alectra to follow up on the concept of NMF as part of working definitions	
Dec 14, 2023	IESO to circulate meeting notes among TDWG members by Dec 21, 2024	Posted Dec 21, 2023
Dec 14, 2023	TDWG members to provide comments and send to engagement@ieso.ca by Jan 11, 2024	1 feedback form received
Dec 14, 2023	IESO to post all meeting materials to the TDWG webpage by Jan 18, 2024	Posted Jan 23, 2023
Dec 14, 2023	IESO to briefly follow up on DER/A and system restoration as part of Deliverable A	

Action Log [1/2]

Date	Action	Resolution
Feb 16, 2024	IESO to circulate meeting notes among TDWG members by Feb 23	
Feb 16, 2024	TDWG members to provide comments and send to engagement@ieso.ca by Mar 15	
Feb 16, 2024	IESO to post all meeting materials to the TDWG webpage by Mar 22	

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

Mtg #	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

Mtg #	Date	Major Topic(s)
7	Jun 2023	DSO operational functions workshop
8	Oct 2023	Draft Deliverables statements of work
9	Dec 2023	B2. Current state of communication B4. Definitions Workshop
10	Dec 2023	B1. Functional Assessment A. T-D Reliability for Bulk Power System
11	Feb 2024	B1. User/Process Journey Mapping

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 #9 Feedback – Current state of communication [1/2]

Are there other communication methods and protocols that you are using, that were not identified? Does your company have a defined IT roadmap looking ahead 10+ years? Does your utility currently have ICCP linkages with IESO, Hydro One or other utilities?

Feedback
Alectra uses wireline and wireless communication such as fibre, WiMAX, licensed and unlicensed radio and the Itron/Silver Springs AMI network to communicate with field devices and has standardized on DNP3 communications protocol. It enforces remote monitoring for generators above a certain size, consolidating data from different sources into its SCADA system.
Alectra, like many other utilities, has its own Transformer Stations (TS) with complex grids and telecommunications systems, with ICCP links providing visibility into TS owned by Hydro One and feeders they supply.

Mtg #9 Feedback – Current state of communication [2/2]

Are there other communication methods and protocols that you are using, that were not identified? Does your company have a defined IT roadmap looking ahead 10+ years? Does your utility currently have ICCP linkages with IESO, Hydro One or other utilities?

Feedback
Impacts on DER connection and operation are directly linked to an LDC's system. They have full visibility and control over the TS and to the feeders that the DERs would be connected to.
Alectra has ICCP linkage with IESO, Hydro One and other LDCs and a defined IT roadmap looking ahead 10+ years.
It would be beneficial for TDWG to get a holistic view of operations for both hybrid feeders and express feeder and to explore more efficient protocols than ICCP.

Mtg #9 Feedback – Working Terms and Definitions

- Will be discussed in next meeting

Mtg #10 Feedback – DSO Architecture

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

Feedback
Terms such as 'existing', 'enhancement' and 'net new' are not representative of capabilities of all LDCs. E.g. GIS or ADMS may not be an 'existing capability' for all LDCs. Similarly, in order to define 'core' and 'advanced' utility modernization activities, further exploration is required.
Along with the functions already listed for a DSO, a major requirement will be operational knowledge of proposed IESO dispatches in the DSO's network. To understand distribution network constraints and potential needs, IAM activity should be emphasized in functional definitions.

Mtg #11 Feedback Questions

For Deliverable B1: Process and user journey mapping

1. Do the DSO Architecture slides present an accurate overview of the systems and functions required for a DSO?

2. Do the user journeys detailed in the presentation comprehensively capture the necessary use cases (e.g., planning, pre-market, system conditions, etc.)

3. Do the user journeys presented accurately reflect the necessary steps, processes, and interactions required for DSO operations and for coordination with the other parties?

Please use the feedback form found under the Feb 16, 2024 entry on the TDWG webpage to provide feedback and send to engagement@ieso.ca by Mar 15, 2024

Thank You

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