Feedback Form

Enabling Resources Program (ERP) – Distributed Energy Resources (DER) Integration Project – Market Integration

Meeting Date: October 15, 2026

Feedback Provided by:

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Following the **October 15, 2026**, engagement session, the Independent Electricity System Operator (IESO) is seeking feedback on the items discussed during the webinar. The presentation and recording can be accessed from the engagement web page.

Please submit feedback to **engagement@ieso.ca** by **October 30, 2026**. If you wish to provide confidential feedback, please submit it as a separate document, marked "Confidential." Otherwise, to promote transparency, feedback that is not marked "Confidential" will be posted on the engagement webpage.

ERP's DER Integration Project

Please provide your feedback and comments on the information presented this engagement which included the following topic areas:

Front-of-the-Meter DER/A Participation Model

Topic	Feedback

Do stakeholders have any questions or clarifications required on the DER/A requirements to participate in the IAM?

Why is the IESO asking:

To confirm a shared understanding and maintain consistency in messaging related to DER/A requirements.

Capacity Auction: Can a DERA, or its contributors, hold capacity obligations? If so, how would qualification, availability and performance apply alongside the energy and operating reserve (OR) schedule? Slide 11 mentions visibility into Capacity Auction activations but not participation.

Minimum size and contributor changes (slides 16–20): Is the 1 MW minimum a registration test on registered capacity, or an availability test applied each interval or day? If a contributor outage or exit takes available capacity below 1 MW, does the DERA remain registered and dispatchable at its reduced offered quantity?

Geography: How many TDIs does the IESO expect to establish, and what is the peak load and connected front-of-the-meter DER capacity at each? When will a TDI include more than one load-serving station?

	Metering (slides 37–38): Market Rules Ch. 6, s. 4.6 lets a registered minor generation facility under 2 MVA, or injecting under 17 GWh per year, register a standalone main or alternate meter. Here is a list of questions to help clarifying the metering requirements: • Whether s. 4.6 applies to each DERA contributor, and whether the metering requirement will be scaled so that smaller contributors are not made uneconomic by Measurement Canada metering requirements. • Whether the 2 MVA and 17 GWh tests apply per contributor or to the DERA; • How battery withdrawals are metered under this option, since s. 4.6 refers to generation and injections; • Whether a revenue-grade device-level meter can be used where the point of common coupling is shared with site load, and what IESO approval under s. 4.6.6 involves;

Topic	Feedback
	• The accuracy and data requirements for the conforming-meter list.

Wholesale Market Settlements – Front of Meter DER/A

Topic	Feedback

Please provide feedback on the potential impacts of this approach, including any barriers, risks, or unintended consequences that could affect DER participation in wholesale markets under a DERA framework. Please provide examples, evidence, or supporting materials that address this trade-off, including how the proposed approach ensures fair treatment of DERs relative to directly connected resources; avoids inappropriate cost shifting or cost avoidance among participants; and maintains efficient market participation while minimizing unnecessary administrative and settlement burdens. **Why is the IESO asking:** The IESO's proposed participation model is technology-agnostic and enables multiple resource types to participate within a single aggregation. This is intended to lower barriers for smaller DERs and facilitate access to wholesale markets. While some technologies have provisions to exempt certain costs (e.g. energy storage may be exempt from certain GA costs/applicable transmission tariffs), DERA-connected resources will not be eligible for technology-specific exemptions as the IESO is taking a technology-agnostic approach. This pragmatic approach balances implementation and ratepayer value.	Voltus disagrees with two elements of the design and has a concern with a third. 1. **Aggregation boundary.** A DERA may include only contributors on one TDI and one LDC (slide 19), and by default each load-serving station is a TDI (slide 18). A single station's footprint will rarely hold enough front-of-the-meter generation or storage to form a 1 MW aggregation from smaller resources. Where it does, the contributors are large enough to participate on their own. We ask that TDIs cover multiple stations by default wherever no transmission or distribution constraint requires otherwise, and that TDI assignments be published.

	2. **Minimum size as an availability test.** If the 1 MW minimum is applied to available capacity each day, a 1.2 MW DERA with a 0.3 MW contributor out for maintenance would be removed entirely, though 0.9 MW remains deliverable. The IESO already manages partial availability through outage and dispatch data (slide 20). We ask that the minimum apply at registration only.

Topic	Feedback
	3. **Loss of technology-specific treatment.** The IESO notes that DERA-connected resources will not be eligible for technology-specific exemptions, such as those available to energy storage for certain Global Adjustment costs and transmission tariffs. A storage facility would pay charges inside a DERA that it would not pay as a standalone resource, which is not fair treatment relative to directly connected resources. Because the IESO proposes a wholesale meter at every contributor, it will have the contributor-level data to apply the existing storage treatment. We ask that storage contributors keep it. Per-contributor metering is the largest barrier and is addressed in the Wholesale Metering section.

Topic	Feedback
Is there any feedback on the IESO's proposal to settle with the MP (aggregator) and not the individual DER contributors? **Why is the IESO asking:** To avoid compensating a DERA twice for the same service, the IESO will act as the settlement agent for a DERA that is registered to participate in the IAM. When participating in the IAM, a DERA signals to the IESO that a portion of its service is intended to meet local distribution system needs/non-wholesale program requirements, or where it deviates from dispatch due to conditions outside of the IESO's control, the IESO shall continue to settle the DERA against the dispatch signal sent to the resource and the response that the IESO measures at the aggregate level. Isolating the services delivered or withheld in response to different stakeholder's needs from a single aggregate's measurement poses a significant technical challenge. To ensure that the wholesale market remains balanced and financially neutral, the IESO expects the aggregator to settle with the relevant stakeholder or distributor for the portion of the service that it has offered to other programs or is unable to deliver in response to an IESO dispatch.	It is beneficial to settle at the DERA level with the market participant, not by dividing performance and settlement amounts across individual contributors. The aggregator holds the delivery obligation and the contributor contracts, so it is best placed to allocate. We find that NYISO takes the same approach: bidding obligations sit with the aggregator and aggregation, not facilities (M-38 §6).

Topic	Feedback
In the illustrative example on slide 21, where a FTM DER/A is simultaneously offering services both to the bulk and distribution grid during any given interval: *Distributor* What information would the distributor need from the IESO for the distributor to settle with the DER/A for the distribution portion of the service? *Market Participant / Aggregator* In addition to currently available information from the IESO, what additional information would the market participants/aggregators need to accurately settle downstream with the DERA contributors? What challenges do participants/aggregators see with settling individual contributors for performance when the aggregate response to the IESO dispatch involves inefficient or directionally divergent scheduling of underlying contributors? **Why is the IESO asking:** Building on the previous question, the IESO proposes to settle with the DER aggregate owner and expects that the aggregate owner will settle with individual DER contributors for their portion of the service. The IESO does not intend to control and will not have visibility into individual DER contributor's response but will only consider the aggregate's response when settling with the DERA.	Timely and accurate posting of IESO-derived performance results for each settlement interval. Specifically: • DERA dispatch, metered and loss-adjusted quantities, and variances by interval. • LMP and the basis for any balancing or OR claw-back charges. • Any LDC-reservation flag in effect for the interval. When contributors have directionally divergent behavior: The main challenges are attributing balancing and claw-back charges when one contributor misses and another over-delivers, and allocating charging energy, losses and degradation when one contributor charges while another discharges. The IESO need not prescribe the allocation, but should define each charge component clearly.

Wholesale Metering – Front of Meter DER/A

Topic	Feedback

Do you foresee any concerns or challenges with adopting the proposed metering implementation approach for FTM DERs directly connected to the distribution system (reference Slide 38)? Are there any barriers that DER operators, aggregators, or any other DER stakeholders will face if required to utilize wholesale metering installations for each of the DER contributors that contribute to a front-of-the-meter aggregation? If so, please describe the barrier in as much detail as possible, including: ● Why it is a concern or challenge. ● Any business, operational, technical, or financial impacts. ● The specific needs or requirements that would help address the concern. ● Potential solutions or alternative approaches that could mitigate the issue. ● How your proposed solution would benefit DER operators, aggregators, customers, and the broader DER stakeholders and existing market participants. Your feedback will help us better understand implementation considerations and identify practical approaches that support reliable market participation while minimizing unnecessary burden on stakeholders.	The requirement for a registered wholesale metering installation at each contributor's point of common coupling is the largest barrier to forming a DERA. **Why it is a concern.** A wholesale metering installation costs about $50,000 per contributor, and that cost does not vary with the contributor's size. A standalone embedded generator pays it once for a resource; a DERA pays it once for every contributor. For a contributor at the 1 MW minimum it is $50/kW before any market revenue, and the DERA model is meant to engage and serve exactly those smaller resources. Contributors near the minimum size become uneconomic, which leaves only larger assets that already have a standalone path to the market.

Besides the IESO, will other entities need access to the meter readings to support their activities? If so, explain a preferred measurement source (i.e., direct meter read), intended usage, read frequency, etc.

Why is the IESO asking:

For FTM DERs that plan to participate in the wholesale market, either on their own or as part of a DER aggregation, the proposed approach builds on existing wholesale metering requirements and *market rules* already used for *embedded generators*. This provides a familiar and practical path forward for implementation. By leveraging established processes, DER owners and aggregators can more easily manage metering registration, metering data collection, and ongoing compliance throughout the life of their assets. In addition, Market Rules Chapter 6, Section 4.6 provides flexibility for *embedded generators* with a capacity below 2 MVA. For example, these *facilities* may be able to use a standalone meter – either main *meter* or alternate *meter* - and may be subject to reduced testing and emergency preparedness requirements. These provisions can help lower both upfront and ongoing metering costs while continuing to meet market requirements.

We welcome feedback on whether this approach is practical for your organization, any challenges you foresee, and opportunities to further reduce barriers while maintaining metering accuracy, reliability, and compliance.

Proposed solution: **certify the measurement device once, not the installation at every site.** For DERA contributors that meet the section 4.6 criteria (under 2 MVA, or under 17 GWh of injections per year), the IESO could define a class of certified alternate measurement device: a data logger or metering module with revenue-grade current and voltage measurement, time-synchronized interval recording, secure communications and an audit trail. Certification would apply to the device model, covering hardware, firmware and the data path to the IESO, and would be done once, at the aggregator's cost. Each deployed unit would then need registration (serial number, location, CT ratios) and a commissioning test against a reference, rather than a wholesale metering installation with instrument transformers, metering service provider registration and site sealing.

Please share any suggestions for improving metering data access, clarifying stakeholder roles and responsibilities, streamlining processes, or introducing additional data, controls, or alternative metering approaches. We are also interested in ideas that would support the successful implementation of FTM DERs today while enabling the continued growth and scalability of DER integration in the future.	The IESO would keep the controls that protect data integrity: an accuracy certification for the device model, the aggregator as the accountable party for data delivery and device health, the existing validation, estimation and editing process, and the right to audit devices and revoke a certification.

	We recognize that the Electricity and Gas Inspection Act requires Measurement Canada approval and verification of meters used for billing. We would note that DERA settlement is not billing in the traditional LDC sense. The contributor's electricity bill continues to be based on the LDC's revenue meter. The DERA measurement determines the aggregator's settlement with the IESO against its dispatch, under the market rules, with the aggregator accepting responsibility for the data. We ask the IESO to confirm what accuracy certification it would accept for a device used in this way, for example Measurement Canada type approval of the device model, a recognized accuracy class, or a calibration traceable to a national standard.

	The benefit. The cost of certification is paid once per device model instead of per contributor, and the lower per-site cost allows smaller contributors to participate. Onboarding becomes faster because no site metering work is needed for each addition, and the same device gives the IESO real-time telemetry, the aggregator contributor-level data for settlement, and the host LDC visibility into DERA activity on its system. **Experience in other markets.** Voltus already meets measurement requirements for operating reserves in other markets using devices it installs and operates at each site.

	• **NYISO:** six-second telemetry for each aggregation, delivered through a dedicated integration with each transmission owner, plus hourly revenue-quality meter data that Voltus submits as a registered Meter Services Entity by noon the day after a dispatch (Market Services Tariff §13 and the Revenue Metering Requirements Manual). • **PJM:** one-minute interval data for each reserve event, submitted within two business days after the event. In both markets the data is more granular than the IESO's five-minute settlement interval, the market operator sets the accuracy and data standards, and the aggregator is accountable for the data. The same class of device could meet the IESO's needs once certified.

Topic	Feedback
	Other entities needing the meter readings. The aggregator needs contributor-level interval data to settle with contributors, and the host LDC needs it for coordination at the TDI. A daily direct read, together with the IESO's settlement-ready quantities by interval, would serve both.

General Comments/Feedback

Voltus Energy Canada is a demand response and distributed energy resource aggregator, active in all nine ISO and RTO markets in North America. In Ontario, Voltus participates in the IESO Capacity Auction. Voltus also participates in the NYISO DER Participation Model, where the Aggregator is the market participant and the aggregation is dispatched and settled as a single resource.

Voltus's DER experience is concentrated in behind-the-meter storage, and we are closely watching how front-of-the-meter assets can contribute to grid reliability.

Summary of Voltus's position

- **Participation model: support.** The aggregator as the registered market participant, dispatch and settlement at the aggregate level, and a technology-agnostic aggregation.

- **Aggregation boundary: support the TDI framework, disagree with the single-station default.** It is too narrow for smaller DERs to reach 1 MW.
- **Metering: disagree.** A wholesale metering installation at every contributor would stop projects from proceeding. We propose certifying lower-cost measurement devices.
- **Minimum size: clarification needed.** The 1 MW minimum should be a registration test, not a daily availability test.