

Feedback Form

Distributed Energy Resources (DER) Market Vision and Design Project – October 20, 2021

Feedback Provided by:

Name: Katherine Hamilton

Title: Executive Director

Organization: Advanced Energy Management Alliance

Email: [REDACTED]

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Following the October 20th public webinar on the DER Market Vision and Design Project, the Independent Electricity System Operator (IESO) is seeking feedback from participants on the focus areas and questions for Phase I of the project, whether the scope of the project is clear, and any additional inputs to the project the IESO should consider.

The referenced presentation can be found on the [DER Market Vision and Design Project webpage](#).

Please provide feedback by November 10, 2021 to engagement@ieso.ca. Please use subject header: *DER Market Vision and Design Project*. To promote transparency, this feedback will be posted on the [DER Market Vision and Design Project webpage](#) unless otherwise requested by the sender.

The IESO will work to consider and incorporate comments as appropriate and post responses on the webpage.

Thank you for your contribution.

Phase I focus areas and questions

Topic	Feedback
<p>Has the IESO identified the right focus areas and questions to complete Phase I of this project?</p>	<p>The phase I questions provided do not provide any clarity on how decisions will be made between foundational versus enhanced participation models. Since the current plan is to only have foundational models enabled by 2026, a much better understanding of the process and framework for determining what will be considered foundational versus enhanced is a critical piece and is required before stakeholders can provide more meaningful feedback on the IESO's proposed approach.</p> <p>In addition, we recommend that the IESO consider prioritizing the "low hanging" fruit and expedite timelines. For example, enabling DERs to participate in Operation Reserve before 2024 could send a clear signal to the market and allow time for customers/aggregators/developers to develop compelling business models and systems. Below, you will find a note providing additional details regarding barriers to Operation Reserve participation and recommendations for improvement.</p>

Project scope and inputs

Topic	Feedback
<p>Is the scope of the project clear? If not, what additional information would be most helpful at this early stage?</p>	<p>The scope is not yet clear since no framework for determining foundational versus enhanced participation models has been provided.</p>
<p>Are there other inputs to the project that the IESO should consider?</p>	

General Comments/Feedback

The IESO has proposed a timeline for completing phase I and phase II for 2021-2026 after which only the “foundational” participation models will be implemented for DERs to compete in IAMs. Throughout the presentation, the IESO makes several references to FERC 2222 and the efforts in the US towards enabling DERs. In that case, FERC has mandated a much more aggressive timeframe to enable DERs in FERC regulated regions.

The IESO has said that current resource constraints are the reason for the current proposed timeline. Has the IESO completed an analysis for what additional resources would be required to enable DERs on a timeline which would facilitate participation of the existing 5000MW+ resources already in Ontario on a faster timeline?

Ontario Operating Reserve Barriers and Proposed Recommendations

Issue:

- Fast-responding distribution connected load assets have the ability to be 5-minute responsive and provide operating reserves.
- In advance of an emerging need for capacity and energy, Ontario based assets are under utilized

Barrier:

- The current participation model limits the ability of load assets in Ontario to offer their flexibility to the IESO
- To participate, an asset must become a Market Participant and follow a registration process that is costly, complex and timely
 - Assets need to be a registered facility in the wholesale market and undergo additional system impact assessments
 - Advanced hardware installation requirements and the transfer from local distribution company to the IESO

Recommendation:

- Allow distribution connected load resources to participate in OR by using existing the HDR data submission and aggregation framework while adding telemetry requirements without requiring the transfer to IESO metered.
- Creating this alternative asset type would allow the IESO to get more value out of dynamic flexibility assets. There are many sites with seasonal dispatchable capabilities that cannot provide them to the market because no feasible participation model exists. Allowing for the easy transfer between aggregated asset types would allow sites to maximize their value to the right part of the market.

How Load Assets Participate Today:

The IESO currently allows for behind-the-meter (BTM) assets to participate in the IESO markets under two current asset types for demand response (DR) services, and operating reserves under one of these asset types. These two asset types are hourly demand response (HDR) and dispatchable load (DL). As an HDR asset, sites can aggregate to provide hourly demand response over 1 MW and provide utility data for baseline-based performance measurement. Under the dispatchable load asset type, facilities must be directly metered by the IESO along with corresponding telemetry, cannot participate in aggregate, but can provide operating reserves and 5-minute energy response.

The current participation model also does not provide an avenue for resources with many types of flexibility to offer their full value to the market. For example, a Market Participant with both behind-the-meter storage and manual curtailment capability is not able to participate in both OR and as an HDR resource. The OR requirements limit a Market Participant to register as a dispatchable load, yet the DR curtailment service is not capable of responding to 5-minute signals that are required for dispatchable load registration.

There are existing assets that can provide significant benefit to the grid but are being constrained by the OR registration requirements and limit on aggregation. The current systems are designed to fit a narrow definition of reserve-capable resources and are not creating a fair and competitive market. Enabling participation for more of these fast-responding distribution-connected assets would help improve grid stability and reduce costs.

Timelines and Coordination:

There is also no coordination for participation across multiple programs, which has caused challenging registration timelines. The combination of the burdensome DL registration process and Capacity Auction timelines require sites to begin registration almost 1.5 years in advance. Many participants may not even know they will have the ability to become dispatchable that far ahead of time.

Two factors drive this delay. First is the requirement to transition to IESO revenue metering. There are several less costly models, outlined below, that would give the IESO the visibility they need to safely manage the grid. LDCs are also bearing the burden that this process entails. The simple transition of physical meter ownership can take months of work between the LDC and Market Participant.

Second is the requirement for individual sites to become IESO Market Participants. Allowing aggregation would significantly reduce red tape and decrease barriers to entry for participants that do not want to assume the risks of direct participation. The IESO can still gain information about OR participants through a process similar to the contributor management that exists today.

How other Jurisdictions Operate:

In other ISO markets, there are structures that allow BTM assets to provide fast-responding energy and operating reserves into their markets. In the CAISO market, there is an asset type called proxy-demand resource “PDR” which allows BTM assets to aggregate and register with the ISO as available for energy dispatch on an hourly and five-minute basis. The assets still provide the appropriate telemetry and testing provisions necessary for operating reserve and regulation certification. The BTM asset as a load reducer does not need to be metered directly by the ISO to participate, instead demand response providers (DRP) who act as the aggregator are able to submit the host utility load data for energy and reserves performance submission and telemetry is sent directly to the ISO for participation in operating reserve (ancillary spinning or non-spinning reserve). This structure provides the ISO the telemetry needed to be able to ensure system reliability and allows the facility to remain metered by the host utility with existing revenue grade metering. PDRs that include battery storage facilities can also have performance measured by battery inverter activity using the MGO settlement construct.

CAISO is not the only North American ISO with this type of structure, ISO-NE has a similar configuration with the Price-Responsive Demand framework; PJM utilizes their demand response construct for energy and ancillary services participation through Curtailment Service Providers that aggregate BTM assets; NYISO utilizes the Demand-Side Ancillary Services Program and Day-Ahead Demand Response Program; and AESO allows for the participation of load resources in OR and aggregates the settlement.

Recommendation:

Allow distribution connected load resources to participate in OR by using existing the HDR data submission and aggregation framework while adding telemetry requirements without requiring the transfer to IESO metered.

The PDR/DRP structure in CAISO is very similar to the IESOs existing HDR data submission and aggregation framework. For the provision of operating reserves, adding telemetry requirements while allowing assets to participate without requiring an asset to move from LDC-metered to IESO-metered would provide both the IESO and the LDC the needed data and reliability information and eliminate the need for additional steps outlined earlier which are complicated, onerous, costly and slow. Below is additional information on the PDR construct. This type of structure would encourage additional existing DER's (from small to large) to participate in operating reserves by significantly reducing the burden of entry, and it aligns with the SREP program goals from Natural Resources Canada and will likely improve participation in the SREP program as providing ancillary services is one of the main requirements of SREP.

Creating this alternative asset type would also allow the IESO to get more value out of dynamic flexibility assets. There are many sites with seasonal dispatchable capabilities that cannot provide them to the market because no feasible participation model exists. Allowing for the easy transfer between aggregated asset types would allow sites to maximize their value to the right part of the market.

Since the IESO systems do not recognize the limitations of many types of resources (namely storage), it is almost necessary to aggregate sites to allow for adherence to the market rules. That way, sites that may dip below the minimum 1 MW threshold on occasion could be balanced. There would also be a way to organize an aggregation to comply with a longer dispatch that a storage resource otherwise would not be able to meet.

<http://www.caiso.com/Documents/ParticipationComparison-ProxyDemand-DistributedEnergy-Storage.pdf>

<https://www.iso-ne.com/markets-operations/markets/forward-capacity-market/fcm-participation-guide/price-responsive-demand>

<https://www.pjm.com/~media/markets-ops/dsr/end-use-customer-fact-sheet.ashx>

<https://www.nyiso.com/demand-response>

AEMA is a North American trade association whose members include distributed energy resources ("DER"), demand response ("DR"), and advanced energy management service and technology providers, as well as some of Ontario's largest consumer resources, who support advanced energy management solutions due to the electricity cost savings those solutions provide to their businesses. These comments represent the views of AEMA as an organization, not any individual company.