

# Memorandum

**To:** Technical Panel

**From:** Jessica Savage

**Date:** April 13, 2023

**Re:** IESO Response to Action Item regarding Price Responsive Loads

During the February 21, 2023 meeting of the Technical Panel, the IESO reiterated that price responsive loads (PRL) will not be eligible to participate as contributors to virtual hourly demand response (HDR) portfolios due to differences in how PRLs and virtual HDRs are modelled. Reconciling these difference in modelling is not within MRP scope and would require significant effort to design and implement a solution informed by stakeholder feedback.

In response, a Technical Panel member reiterated concern that the load participation model required to facilitate PRL participation in a virtual HDR portfolio is not being addressed through MRP. Another Panel member raised concerns that stakeholders had also asked for an explanation of the tool changes that were required for the Distributed Energy Resources (DER) Market Vision and Design Project (MVDP) and that the IESO was unable to provide an explanation.

The purpose of this memo is to:

- clarify the IESO's position as it relates to the discussion about tool changes required for the DER Market Vision and Design project, and
- provide additional clarity on the changes required to enable PRL participation in a virtual HDR portfolio.

## **DER Market Vision and Design Project**

The DER MVDP is enabling dispatchable aggregations of distributed resources to participate in the wholesale markets. Currently, resources that are less than 1 MW in size may participate within a virtual HDR aggregation within the Capacity Auction but do not have access to other participation models or markets. Once the MVDP is complete, dispatchable aggregations of small generation, storage, and flexible load will be able to participate within the energy and operating reserve markets and will also have an enhanced ability to participate in future IESO procurements.

In October 2022, the IESO received stakeholder feedback on the DER MVDP Project, including a request from the Advanced Energy Management Alliance to provide stakeholders with a better understanding of the specific tool changes that are in scope. The IESO's response was that it would be impractical to list all such tools at this time because the required changes will be identified during the DER MVDP implementation phase which will begin in Q2/Q3 of 2023. IESO responses to stakeholder feedback are available at <https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/dermvdp/dermvdp-20221229-response-to-feedback.ashx>

### **Changes Required to enable PRL participation in a virtual HDR portfolio**

PRL was introduced as a new, optional resource type to provide an opportunity for load resources to be settled in the day-ahead market based on their bids, potentially giving them more control over their costs than if they register as non-dispatchable loads (NDL). There is no requirement to register as a PRL. To participate in the Capacity Auction, NDL can continue to be a demand response contributor as part of an aggregator's virtual HDR portfolio, or participate as a physical HDR resource as an NDL or by registering as a PRL.

Virtual HDR resources contributing to an aggregator's portfolio are modelled as a single, aggregate resource within a zone irrespective of the contributor locations and quantities within that zone. PRLs and NDLs participating as physical HDR resources are modelled based on their specific location and quantity. This difference in load modelling means there is no ability to link a virtual HDR quantity scheduled as part of an aggregator's portfolio with a corresponding PRL resource. The inability to make this linkage would potentially result in double-counting megawatts and creating forecast errors between day-ahead and real-time, the cost of which are ultimately borne by NDLs.

Facilitating PRL participation in HDR portfolios would require the development and adoption of a new participation model not contemplated in MRP design. In order for a PRL to participate as a contributor to an HDR portfolio, the IESO would require a load participation model capable of mapping the PRL's share of each aggregator's zonal demand response bid and curtailment to the location at which it is expected to occur. Developing the new load participation would require:

- Stakeholder engagement to define a new process for collecting detailed contributor allocations from aggregators associated with any submitted HDR bid
- Software changes to establish, maintain, and utilize the contributor allocations in the following systems/processes: registration and contributor management; dispatch data submission or other data feed software; calculation engine load forecast distribution calculations and models; PRL and NDL market settlement calculations.

### **Current Status of Demand Response Initiatives**

The list of priorities for demand response initiatives was last reviewed in March 2021. Creating a load participation model that would link contributors within an aggregated portfolio to their actual location was not included on that prioritized list and is not currently contemplated by the IESO.

To the extent that previously identified priorities for Demand Response participation in Ontario's wholesale market have evolved, the IESO is committed to working with the Demand Response community to revisit priorities and is targeting Engagement Days in June to advance that conversation.