Final Engagement Summary Report
Date: December 10, 2020

Energy Payments for Economic Activation of Demand Response Resources

Engagement Initiated: August 2019

Engagement Description

Energy payments (or utilization payments) for the economic activation of demand response (DR) resources has been an ongoing topic of discussion at the Demand Response Working Group (DRWG). In 2019, stakeholder interest in energy payments was renewed as a result of proposed market rule amendments to enable off-contract, non-regulated dispatchable generators to participate in the capacity auction along with dispatchable loads and hourly demand response (HDR) resources.

Stakeholders pursued a challenge to these proposed market rule amendments through a proceeding at the Ontario Energy Board. Through the proceeding, stakeholders articulated that concern about energy payments centres around recovery of incremental fixed costs that may be incurred by DR resources to shut down their operations in response to a DR activation, referred to as "shut-down costs". Stakeholders described these costs as a subset of shut-down costs that may be challenging to accurately incorporate into auction or energy market bids.

Prior to the initiation of this engagement, the DRWG had been the forum for discussions with stakeholders on energy payments for DR resources – for both economic and out-of-market activations. However, given that energy payments for economic activation of DR resources is a more complex issue and would constitute a substantive change to Ontario's energy market, the IESO determined that a broader stakeholder engagement was needed to advise on this issue and therefore, launched the Energy Payments for Economic Activation of Demand Response Resources engagement.

As the engagement evolved, the focus of the discussion shifted from providing an energy payment at the wholesale electricity price, to exploring options to address the recovery of shut-down costs.

Engagement Objective

The objective of this engagement, which evolved throughout the course of the engagement, was to provide a forum for stakeholders to provide feedback on:

- The inputs and outputs of the research and analysis required to determine whether there is a net benefit to electricity consumers if DR resources are compensated with energy payments for in-market activations. The IESO commissioned a third-party consultant, the Brattle Group, to support the research and analysis;
- The IESO's decision and rationale on whether DR resources will be compensated with energy payments for in-market activations; and
- The nature and magnitude of shut-down costs incurred by DR market participants to determine the materiality of the shut-down cost question, and inform whether further exploration of options for a cost recovery mechanism is warranted.

Engagement Approach

This stakeholder engagement was a public engagement process and was conducted in accordance with the IESO's approved engagement principles. The approach for this engagement initiative included opportunities to provide input through various channels such as in-person meetings, webinars, and written feedback. All materials, including feedback and commentary from stakeholders, and IESO responses to feedback was posted on the dedicated IESO engagement webpage for this initiative.

Conclusion

The IESO has aimed to engage in a robust and collaborative dialogue with stakeholders with respect to the position that there is a subset of costs that DR resources incur when activated by the IESO to provide DR that they may be unable to recover through current market mechanisms.

DR stakeholders actively participated and provided feedback throughout this engagement, primarily through coordinated written submissions from the Association of Major Power Consumers of Ontario (AMPCO), the Advanced Energy Management Alliance (AEMA), and the Electricity Distributors Association (EDA). The IESO also received stakeholder feedback from the Market Surveillance Panel, Ryerson Center for Urban Energy and Rodan Energy.

Stakeholder feedback resulted in adjustments and revisions to the engagement plan and schedule, the scope of work and problem statement for the research and analysis to inform the IESO's decision on whether energy payments should be provided to DR resources, and the shift in focus to a discussion on DR shut-down costs. Specifically, the following adjustments and revisions were made in response to stakeholder feedback:

- The engagement plan and schedule aimed to reach a decision on whether DR resources should be compensated with energy payments prior to the June 2020 Capacity Auction (prior to its postponement to December 2020), at the request of stakeholders

- The problem statement was revised from its original draft of "*Should DR resources receive energy payments for in-market activations?"* to include the statement, "*If so, when should payments be made and what are the options to determine the amount of payment?"*
- Various revisions were made to the scope of research and analysis to inform the IESO's decision on the issue as outlined in the December 11, 2019 engagement presentation
- The scope of the engagement was expanded as described in the February 13, 2020 engagement presentation

In May 2020, the Brattle Group completed the research and analysis that would inform the IESO's decision on whether and how energy payments should be provided to DR resources and published their findings in a report entitled "*Energy-Market Payment Options for Demand Response in Ontario*." The main finding of this report was that energy payments are not appropriate for Ontario DR customers that are already exposed to the wholesale electricity price because when activated, these customers avoid incurring costs by not consuming at the wholesale electricity price. The wholesale price is equal to the system's marginal cost, so consumption against this price leads to the economically efficient outcome.

The report also concluded that the U.S. FERC 745 customer benefits approach is not appropriate for Ontario for three reasons: (1) payments at full wholesale price overcompensate demand response, leading to uneconomic curtailments; (2) the customer benefits perspective implies a preference for transfer payments from suppliers to consumers, which is not consistent with the principles of competitive wholesale markets; and (3) the "customer benefits" test does not readily translate to the Ontario context since increases in Global Adjustments (GA) offset benefits from price reduction.

Brattle did identify that under some circumstances the basis for DR activation may not match the basis of settlement due to timing, locational, and/or price formation challenges, and recommended that these circumstances, as well as energy payment options for DR resources that are not exposed to the wholesale electricity price, be examined further.

These findings informed the IESO's decision, communicated at the May 21, 2020 webinar, not to provide energy payments to wholesale price-exposed DR resources, conclude discussion of energy payments, and shift the focus of the engagement solely to DR shut-down costs. The IESO also indicated openness to further discussion on the report's other recommendations through the Demand Response Working Group (DRWG).

To inform the IESO's understanding of the nature, magnitude and materiality of DR shut-down costs and justification for proceeding with development of a cost-recovery mechanism, the IESO requested information from stakeholders at the February 13, 2020 meeting and May 21, 2020 webinar. Specifically, the IESO was looking for information on what types of DR resources incur costs and under what scenarios, what categories those costs fall under, their magnitude, and how they are currently dealt with (i.e. the status quo). The IESO also presented and sought feedback on high-level potential mechanisms for shut-down cost recovery.

While the stakeholder community identified a preferred potential shut-down cost recovery mechanism, they were unable provide information regarding shut-down costs in response to these requests. In the absence of evidence to help the IESO understand the issue and its materiality, the IESO proposed to conclude the engagement and current discussion of shut-down costs. The IESO also determined that implementation of the recovery mechanism preferred by stakeholders, which involved incorporating shut-down costs into dispatch using a two-part energy market bid, would not be feasible until after implementation of the Market Renewal Project (MRP). The IESO indicated that further discussion of a shut-down cost recovery mechanism could take place at a later date when projects are under consideration after the Market Renewal Program is implemented. Those discussions would also require the provision of stakeholder information in order for the IESO to evaluate the issue against the status quo. Please see the appendix for a clarification and further information on the two-part bid recovery mechanisms that is preferred by stakeholders.

Stakeholders indicated their disappointment with the IESO's position and suggested consideration of an administratively-set payment approach as an interim solution, until the two-part energy bid approach to shut-down cost recovery could be investigated. Part of that investigation would include an analysis of the extent to which the status quo, whereby demand response resources must factor shut-down costs into their energy market bids, results in inefficient economic outcomes. However, in the absence of any evidence from stakeholders to demonstrate the nature and materiality of the issue, there is no basis to support the development of an administrative payment for shut-down costs or proceed with further investigation of a cost recovery mechanism at this time.

This concludes the Energy Payments for Economic Activation of Demand Response Resources stakeholder engagement. Thank you to all stakeholders for your participation. All materials including the *Energy-Market Payment Options for Demand Response in Ontario* report by the Brattle Group, will continue to be available on the IESO website under Completed Engagements.

Appendix

At the request of stakeholders, the IESO committed to providing clarification on the proposed two-part energy bid approach to shut-down cost recovery for DR resources. This proposed option (Option 4) consisted of two sub-options. Under the first sub-option (Option 4a), a resource would include fixed shut-down costs as a bid parameter and would be included in price formation by the dispatch, scheduling and optimization (DSO) engine. Stakeholders raised the point that DR resources that incur shut-down costs are already building these costs into the variable energy bid (so the bid is comprised of the marginal energy cost plus a risk premium associated with fixed activation costs) meaning shut-down costs already contribute to setting energy prices if the resource is the marginal resource in the supply mix. Stakeholders requested clarity on how the status quo differs from what was proposed under Option 4a. The difference under Option 4a is that the fixed cost would be optimized in the DSO engine along with the marginal energy bid and dispatch duration to ensure the least-cost resource is dispatched for the indicated dispatch duration, compared to the status quo where the market participant is including their own risk premium for the activation cost based on expectations of dispatch duration. The DSO engine is not designed to consider fixed costs, such as shut-down costs, as a separate bid parameter in the real-time sequence that contributes to price formation. This is the case for all resources, not just demand response in this potential cost-recovery mechanism. Going forward in MRP, the market engine will evaluate start-up costs in the day-ahead and pre-dispatch timeframes only, and when these fixed costs are evaluated they will continue to be ineligible from price formation.

Under the second sub-option (Option 4b), the shut-down cost would be included as a separate bid parameter and considered in the dispatch decision, but would not set prices. Similar to how non-quick start generators will be scheduled under the Enhanced Real-Time Unit Commitment initiative that is taking place as part of MRP, the DSO engine would optimize the variable energy plus fixed shut-down cost across curtailment duration to ensure the least-cost resource (on a total cost basis) was dispatched. Under Option 4a, there would typically be no out-of-market payments because resources would only be dispatched if the total, combined cost were recovered over the dispatch timeframe. An out-of-market payment may still be required in some instances for resources that are scheduled in the pre-dispatch timeframe (i.e. Hourly Demand Response resources) due to differences in the basis for dispatch and settlement. In comparison under Option 4b, in the event that the wholesale electricity price over the duration of dispatch is not high enough to ensure full cost recovery, an out-of-market make-whole payment may be appropriate.

These options were identified as part of an initial high-level option development exercise. For the reasons discussed in this summary, the IESO did not proceed to explore detailed design questions.