Demand Response Working Group

IESO Response to Stakeholder Feedback – March 29, 2016

Topic 1: DR Auction Elements

Comment 1 (City of Toronto)

The City recommends that the IESO consider the opportunity for increasing the Demand Response capacity for the Winter season to meet decreased capacity associated with the Ontario-Quebec energy swap.

IESO Response:

The Ontario-Quebec capacity sharing agreement is for seasonal capacity that Ontario does not require to maintain reliability during the Winter season and therefore, will not need to be replaced through other procurement mechanisms, such as the DR Auction.

Comment 2 (Opower)

Demand Curve Parameters Should Reflect Residential DR Capabilities

The demand curve parameters are calibrated based on legacy DR3 contracts from commercial and industrial customers, and therefore do not encompass the available capacity and price of residential DR resources. Specifically, the target capacity and reference price should be modified to reflect both legacy residential DR programs, as well as emergent DR technologies. The target capacity for each commitment period should not only include expiring DR3 contracts, but also a portion of 113 MW of residential DR capacity from the peaksaverPLUS® program.

IESO Response:

Prior to modifying the DR Auction's target capacity to include legacy peaksaver resources, the IESO, in working with the DRWG, will need to determine how best to incorporate residential load in the DR Auction and meet the operational requirements of HDR resources in the energy market. Residential DR will be a topic of discussion at the next DRWG meeting.

Comment 3 (EnerNOC)

EnerNOC recommends that the DRWG discuss Market Rule Changes regarding introduction of a secondary market (i.e. Reconfiguration Auctions similar to ISO-NE) in order to increase competition.

IESO Response:

Currently, the DR Auction's forward period for the Summer Commitment Period is 5 months. The IESO does not believe running a reconfiguration auction within the 5 month forward period is practical and does not believe there will be a benefit in doing so. The benefits of running a reconfiguration auctions may be greater for multi-year forward periods.

Comment 4 (EnerNOC)

EnerNOC recommends that the DRWG discuss the need for virtual and physical caps.

IESO Response:

The Total and Virtual Zonal Limits are important to maintaining reliability of the power system. The Total Zonal DR Limit is set based on transmission availability studies, reflecting the amount of DR Capacity that can be accommodated in a zone. The Virtual Limit represents the amount of DR Capacity that can be accommodated in each zone based on reliability studies and modelling assumptions. A given virtual DR resource in a given zone is modeled as a virtual dispatchable load placed at a robust electrical location in that zone. Allowing too much of this disaggregated consumption to be modeled as though it were impacting a specific point on the electrical grid could introduce dispatch errors and reliability concerns in managing power flows on the transmission system. The IESO is currently investigating alternative modelling techniques for virtual resources which may increase the amount of virtual DR that can be accommodated in each zone. At this point, it is too early to estimate the impact this will have to virtual zonal limitations of each individual zone and the IESO will update the DRWG once more information is available.

Comment 5 (EnerNOC)

In order to expand the role of demand side participation, the DRWG should discuss removal of the 500 MW cap based on the Minister's Directive.

IESO Response:

Through the DR Pilot Program and the DR Auction's downward sloping demand curve, the IESO has increased procurement of Demand Response resources beyond the 527MW transferred into the IESO from DR3. The DR Pilot Program's RFP sought to procure up to 100MW, of which only 80MW were successful. Although the 2015 DR Auction's target MW was 367MW, which maintains the 527MW of DR in CBDR, the IESO procured 391.5MW for the Summer Commitment Period and 403.7MW for the Winter Commitment Period. The IESO is balancing the LTEP target to reach DR resources of 10% of peak demand by 2025 with current system conditions and other factors described in the presentation on March 29th. The Target MW and other demand curve elements will again be a topic of discussion at the DRWG in a future meeting.

Topic 2: Energy Market Participation

Comment 1 (EnerNOC)

EnerNOC recommends that the DRWG discuss Market Rule Changes to the hours of availability in order to increase participation.

IESO Response:
The Availability Windows were selected to provide the most value to the system. Aggregators may pool contributors together to meet the Availability Window of a capacity obligation. Any reduction to the hours of availability may increase participation in the DR Auction in the short term, but would be counterproductive to the longer-term effort to level the playing field between DR resources and other capacity resources competing in an incremental capacity auction.

Comment 2 (Opower)
Allow for Alternative Baseline Methodologies

The IESO should follow the example of successful market-based DR programs at other ISOs, each of which have a process for registering alternative baselines. Achieving this diversity of DR technologies requires flexibility around the techniques used to evaluate load reduction because the standard baseline methodology is not appropriate for all resources.

IESO Response:
The IESO is interested in discussing an alternative baseline option to the existing historical baseline methodology, if it is better reflection of a DR resource's capability. The current baseline approach has been found to be the best fit for traditional DR providers, but we recognize that new technologies and/or sectors may see their consumption vary based on different factors. The IESO seeks to balance the need for accurate measurement and verification processes against the complexity of managing too wide a range of different baseline approaches. The IESO is interested to understand further the different baseline approaches taken in other ISO or utility programs which may be well-suited to emerging technologies and sectors. This will be a topic of discussion at the next DRWG meeting.

Comment 3 (Opower)
Automated Dispatch Signal

The IESO should consider automated signals for standby notifications and activation notifications, as opposed to the current method that requires market participants to login each day to see if they have been scheduled for standby and/or activation.

IESO Response:
The IESO currently publishes private participant reports for Market Participants active in the energy market, including Hourly Demand Response resources. These reports are published in widely-used

formats which allow for the development of automated solutions for Market Participants which can be tailored to their own specific needs.

Comment 4 (Opower)
Include Activation Hours in Standby Notification

Residential DR programs would benefit if standby notifications included information about which four-hour period the DR resource could expect to be activated and the energy that that resource should deliver during that period. By including potential activation hours and energy commitments in the standby notification, the DR market participant could better prepare its resources to comply with IESO directions when and if the DR resource is activated. This certainty about activation hours would also benefit commercial and industrial DR resources by allowing for the advanced scheduling for DR curtailment activities in preparation for a potential activation.

IESO Response:
In setting the requirements for Hourly Demand Response resources, the IESO must balance trade-offs such as the benefits of longer commitment certainty against the benefits of flexibility. Given the dynamic nature of the power system, emerging system conditions between the standby notification timeframe and potential activation hours can be difficult to predict. The combination of the Standby Notification and other market participant-specific reports, specifically the pre-dispatch schedule report, can be used to identify the hours in which the IESO expects the DR resource will be called upon to reduce its consumption.

Comment 5 (EnerNOC)
EnerNOC recommends that the DRWG discuss Market Rule Changes introduction of a proportional dispatch similar to the UK Capacity Market in order to improve performance.

IESO Response:
The IESO is unfamiliar with the proportional dispatch approach as adopted in the UK Capacity Market but would welcome more information in either written form or at a future DRWG meeting to consider.

Comment 6 (EnerNOC)
EnerNOC recommends that the DRWG discuss operational mechanics regarding contributor management; specifically, the ability to provide contributor management information in 'bulk uploads' and information needs for contributor management.

IESO Response:
The IESO will investigate the feasibility of adding a batch upload capability to the Online IESO system and will communicate further details through the DRWG.

Comment 7 (EnerNOC, City of Toronto)
EnerNOC recommends that the DRWG discuss the four hour delivery window.

IESO Response:
Through the DR Pilot Program, which is a two-year program starting May 2016, the IESO is exploring opportunities to evolve demand response participation in the energy market, including both reducing or increasing the duration of DR dispatches relative to the current 4-hour block dispatch. After review of learnings achieved from the Pilot Program and discussions with stakeholders through the DRWG, operational requirements for DR resources may be modified for future auctions.

Topic 3: Growth Opportunities for Demand Response

Comment 1 (City of Toronto)
The City supports identifying local capacity requirements associated with regional planning. As a growing City electricity demand continues to increase; local Demand Response is a sustainable option to manage costs and emissions.

IESO Response:
As discussed in the Demand Curve Elements presentation at the last DRWG meeting, through upcoming pilot programs the IESO will be looking to identify the ways in which DR can assist in meeting local needs identified in the regional planning process.

Comment 2 (Opower)
Measurement Data Submission and 5-Minute Data Granularity

Opower recommends that the IESO accept measurement data submissions using the native read frequency of the AMI meters affiliated with the DR resources. In the case of residential AMI, this could be a 15-minute, 30-minute, or 60-minute read frequency. For the purposes of standardized data reporting, the DR market participant could report the value of a single meter read as the interval value for each 5-minute period within the meter read frequency. For example, if an aggregated DR resource is composed of residential customers with 15-minute interval data, the DR aggregator should be allowed to report a single value for each of the three 5-minute intervals within the 15-minute consumption interval.

IESO Response:
The IESO would like to have further discussion on the metering requirements and data availability for residential DR. This can be a topic of further investigation at the next DRWG meeting.

Comment 3 (Opower)

Post-Auction Requirements: Contributor Management

The requirements for contributor management are administratively burdensome for residential DR providers that may aggregate tens of thousands or hundreds of thousands of individual participants. The Online IESO system only allows users to input a single virtual contributor at a time. Batch upload functionality is necessary to facilitate the registration of large volumes of aggregated virtual contributors. Additionally, the IESO should review the applicable requirements for contributor management to determine applicability to the residential sector.

IESO Response:

See response to Comment 6

As the residential contributor rules are developed, the IESO will review the applicable contributor management requirements for that type of contributor.

Comment 4 (EnerNOC)

In order to expand the role of demand side participation, the DRWG should discuss allowing aggregated load to participate in Ancillary Services similar to AESO (Operating Reserves), PJM (Synchronized Reserve) and ERCOT (ERS-30).

IESO Response:

Using aggregated DR to provide ancillary services, where it can meet the necessary reliability standards for such services, can be a future topic of at the DRWG.

Other comments

Comment 1 (Nest Labs)

One idea we would like to discuss further is the concept of have a subcommittee of the DR Working Group looking at DR for the residential market. It needs to be recognized that the large commercial/industrial sector is very different from the residential sector. This will not only require tweaking of the rules, but also in the way the private sector can engage in that market.

IESO Response:

As discussed in the first DR Working Group meeting, the establishment of subcommittees could be a possibility if there is sufficient need. At the next DRWG meeting, the IESO looks to discuss residential DR further and if warranted, a residential subcommittee can be established.