

Feedback Form

Demand Response Working Group webinar – December 3, 2020

Feedback Provided by:

Name: Michael Pohlod

Title: Energy Markets Manager

Organization: Voltus Energy Canada Ltd.

Email: [REDACTED]

Date: December 24, 2020

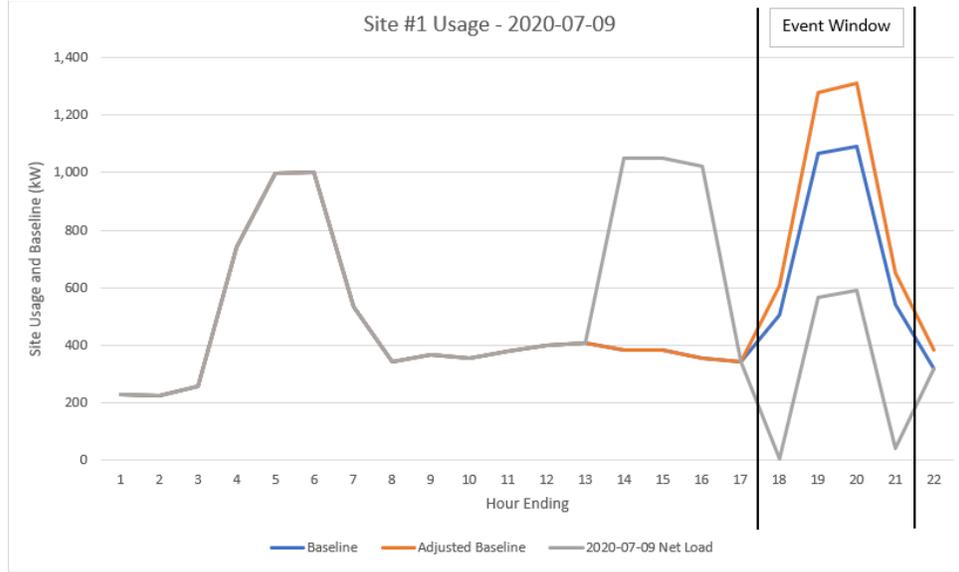
Following the December 3, 2020 Demand Response Working Group (DRWG) engagement webinar, the Independent Electricity System Operator (IESO) is seeking feedback from stakeholders on the following items discussed during the webinar. Background information related to these feedback requests can be found in the presentation, which can be accessed from the [engagement web page](#).

Please submit feedback to engagement@ieso.ca by December 24, 2020. If you wish to provide confidential feedback, please submit as a separate document, marked "Confidential". Otherwise, to promote transparency, feedback that is not marked "Confidential" will be posted on the engagement webpage.

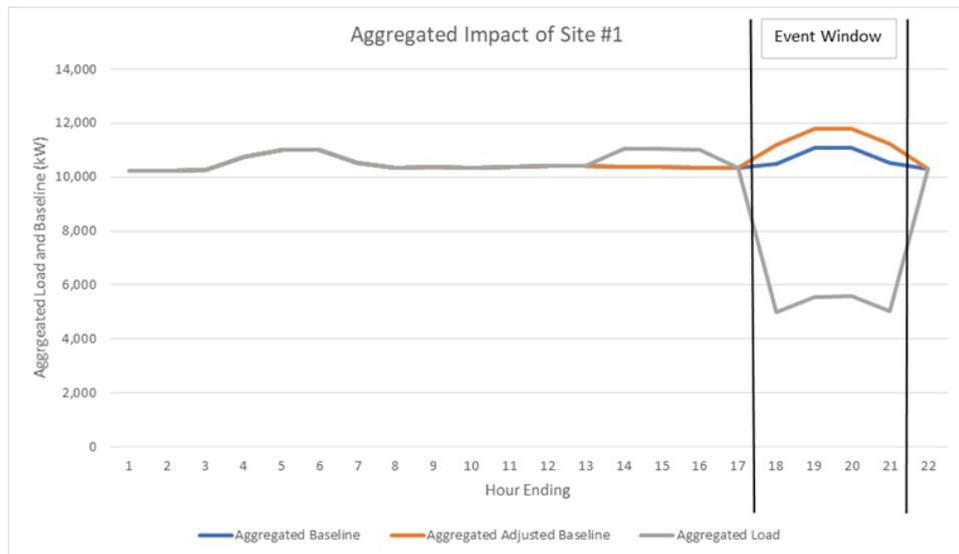
Feedback on Key Resource Adequacy Discussion Areas

Topic	Feedback
<p>Please provide any further feedback, beyond the information presented in the AEMA presentation, to inform the development of a draft list of DR market development priorities.</p>	<p><u>In-Day Adjustment Factor (IDAF)</u> Voltus would like to challenge the IESO on its assertion that the current baseline methodology should be applied uniformly to all HDR sites. Most markets where Voltus operates allow participants the ability to select from several different baseline methodologies. Each of these markets is also scheduling Demand Response as an hourly or sub-hourly resource in order to balance supply and demand on the system and is using the different methodologies to most accurately reflect the base case that would have occurred had there not been a dispatch. The current system allows some loads to over-represent their dispatches by charging or pre-cooling buildings and underrepresents other loads who may have had reduced manufacturing schedules the day of a dispatch or curtailed early for operational reasons.</p> <p>As noted in the AEMA’s December 2019 submission, there are different load types that require different baselining methodologies and Voltus requests that the IESO reviews how leading ISOs such as PJM and MISO categorize and model their demand response resources. In the following paragraphs, Voltus is providing the IESO with examples from the July 9, 2020 dispatch of how the current application of the IDAF is inaccurately representing capacity provided to the system and potentially creating the very problem the IESO is concerned with in its declared position against any changes to the IDAF.</p> <p>A major concern brought forward by the IESO in providing additional baselining methodologies that may enable multi-hour ramping of HDRs is the potential for reliability concerns to occur through deviations from the expected hourly schedule created by the current tools. Voltus generally encourages the IESO to continue to make upgrades to its DSO to bring it inline with other ISOs in North America. Moreover, the current mechanism may encourage inflation of load at times of peak demand, which should be identified as a reliability concern. The graphs on the following page shows the site usage, baseline and adjusted baseline of two sites on July 9th, 2020, a day when loads reached over 24 GWs for the first time in years. It is difficult for Voltus to understand heightened concerns from early curtailment when the IESO does not seem to express any concern over the current incentive for load to ramp up during the in-day adjustment period.</p>

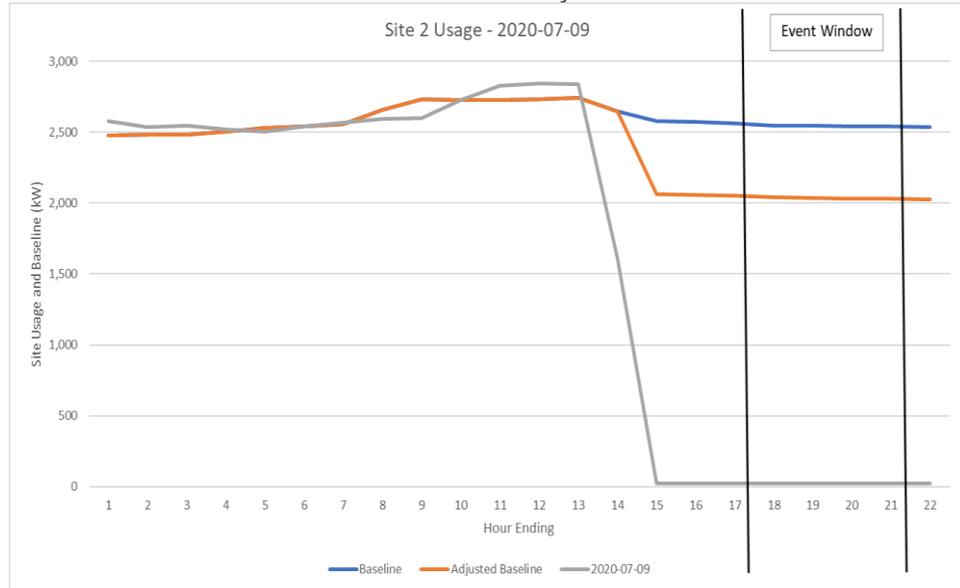
Site 1: Increased IDAF from ESS Charging



Site #1 shows a theoretical energy storage site charging during the in-day adjustment period and then discharging during the event. Despite only providing 500 kW of capacity, the site is credited with an average performance of 660 kW. When this takes place alongside an additional 10 MW aggregation that is responding for 5 MW, the effect is more pronounced. With the site being credited with almost 1200 kW of Capacity.

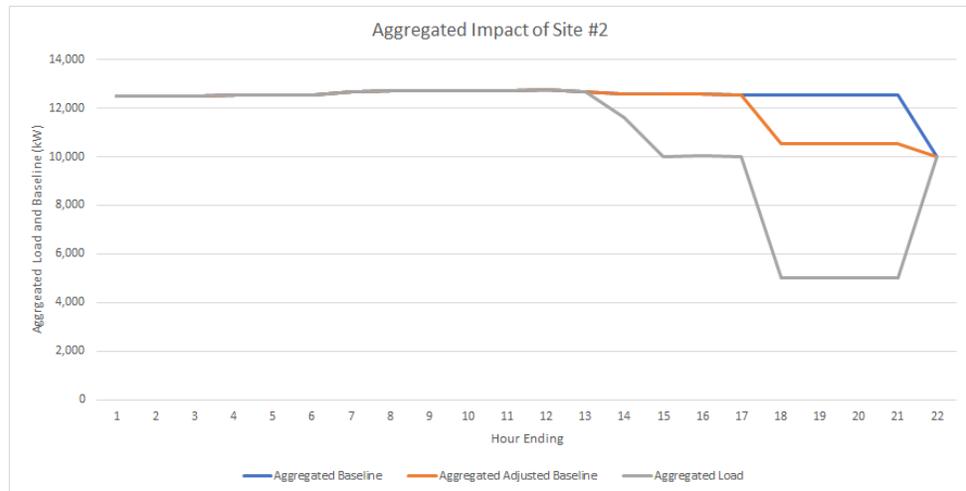


Site #2: Decreased Performance from Early Curtailment



Site #2 ramped down immediately after being notified of a dispatch, providing 2.5 MWs of Curtailment. The site’s performance is assessed at only 2 MWs of performance **and is therefore subject to both Capacity and Dispatch Charges.**

When viewed as part of an aggregation, the effect is even more pronounced, with the site being credited with just 500 kW of performance and causing the aggregation to fail the dispatch, being assessed both a Capacity and Dispatch Charge despite bringing a 7500 kW reduction to the system.



Aggregation impacts summarized

The IESO's evaluation of these sites has a dramatic impact on the portfolio's performance. With Site 1 increasing aggregation performance by nearly 1.2 MWs and Site 2 decreasing aggregation performance by over 2 MWs.

Voltus asserts that early curtailment should not reflect negatively on the capacity delivered by a resource. The Site 2 example above clearly shows that the site and aggregation provided its full capacity obligation. The IESO's concerns regarding the impact of early curtailment are already dissuaded through the dispatch charge and should not also result in an underpayment of a resource that has delivered on its capacity obligation.

Concerns Regarding the Double Counting of ICI Impact

The IESO has also stated that the current application of the IDAF plays an important role in ensuring that capacity is incremental to reductions from the ICI program. Voltus asserts that the IDAF is not an effective nor a fair market mechanism for excluding ICI Reductions from HDR performance:

- 1) Many jurisdictions have both peak demand factor-like methodologies and capacity markets that procure capacity from demand response resources. Baselining methodologies, like the IESO's 15 out of the last 20 methodology, naturally reflect peak chasing behavior. As customers reduce their consumption in potential high 5 events, their baselines are subsequently reduced. Had the ICI Program been active this past summer, the July HDR events would have seen baseline erosion for Class A customers as a result of high 5 curtailments that would have occurred on July 2nd, July 3rd, July 6th, July 7th and July 8th.
- 2) The IDAF only reflects ICI reductions that occur during a specific window. This may or may not be an accurate reflection of ICI curtailment. Looking at the Demand Response events in July 2020, a top five event occurred on each July day:

On July 9, 2020, the DR event was called from HE18 through HE21. The top hour of the day was HE13 and had no overlap with the IDA period.

On July 10, 2020, the DR event was called from HE16 through HE19. The top hour of the day was HE17 and occurred during the Demand Response Event.

On both of these days, the IDAF would have only affected long duration passive ICI curtailment. For example, if a factory shut down for the day. Otherwise, shorter duration resources and strategies (energy storage, or active curtailment) would have readily curtailed for both the ICI and the Demand Response event, while avoiding the IDA period.

Paths Forward

Voltus believes that the best solution to this problem is to provide several baseline methodologies that can be assigned to participant loads. This

will allow a more accurate modelling of the performance of different loads types and limit under and overcompensation of capacity resources. So long as the IESO is providing a single one-size-fits-all mechanism for all DR to participate through in the wholesale market, it is unreasonably excluding (or underrepresenting) some load profiles from delivering their capacity.

If the IESO is unwilling or unable to add additional baselining methodologies, then we believe that the Capacity Charge mechanism should be revised to ensure it is not being applied to resources and aggregations that have met their capacity obligations but been unfairly assessed due to early curtailment.

Topic	Feedback
<p>Do the revisions to the HDR Objective Statement address the stakeholder concerns that were identified?</p>	<p>In general, Voltus echoes the position of the AEMA that “an objective statement is a barrier to the evolution of DR resources.” Demand-side or supply-side resources within a deregulated market should not have objective statements. These resources are used to balance supply and demand in real-time and ensure the safe, reliable and cost-effective operation of the electric grid. Hourly Demand Response (HDR) portfolios are composed of diverse stakeholders, many of whom would curtail or provide the ability to curtail when energy or operating reserve (OR) energy prices are above their marginal costs of curtailment. At this time, the primary objective of the IESO for HDR may be to support the system during emergencies, however, as distributed energy resources become increasingly prevalent, it will be pivotal for the IESO to redesign how it models, schedules and measures HDRs. Without this new focus, the IESO may be unable to take advantage of new technology to improve reliability and lower system costs. We recognize that the IESO is focused on evaluating the potential enablement of DR resources in the IAMs through the EPOR-E initiative and as a result, we question the need for a HDR objective statement.</p> <p>If the IESO requires an objective statement to focus internal resources on exploring and implementing design changes to further enable HDR in the IAMs, then Voltus believes the statement can be amended as follows:</p> <p>“While Hourly Demand Response resources are currently used to provide capacity to maintain reliability during times of localized or global system stress, the IESO is broadly supportive of exploring...”</p> <p>This amendment allows the acknowledgement of the current use of the resource type without any potential limiting language on the future of DR in Ontario.</p>

General Comments/Feedback

Voltus would like to thank the IESO for its on-going engagement on demand response related issues. Voltus is a leading provider of Demand Response (DR) in North America, having enabled more than 10 GWs of DR in MISO, SPP, CAISO, AESO, IESO, ISO-NE, PJM and ERCOT. We are generally supportive of the IESOs work to further enable DR resources to provide additional services in the IESO Administered Markets (IAMs) and are awaiting further indication on next steps from the IESO in its Expanding Participation in Operation Reserves and Energy (EPOR-E) Initiative.

EPOR-E and DRWG

At present, we have some concerns regarding how the IESO is approaching issues brought forward through the DRWG. In this most recent DRWG session, we observed that the IESO seems to be simultaneously pursuing an investigation of how to further enable demand response to provide real-time energy products (EPOR-E), while also rejecting any changes required to make demand response more dynamic and able to deliver these products. Voltus sees a lot of valuable work for the DRWG to pursue alongside EPOR-E to ensure that demand response resources can be properly registered, measured and dispatched into all IESO administered markets. To this end, we request that the IESO develops a scope of work for the DRWG to assist the EPOR-E Initiative after the release of the Phase 1 Memo.