IESO Response to Stakeholder Feedback

Resource Adequacy Engagement - Hourly Demand Response Baseline Methodology – September 23, 2021

Following the September 23, 2021 Resource Adequacy engagement webinar, the Independent Electricity System Operator (IESO) invited stakeholders to provide feedback on the materials presented.

The IESO received feedback from the following stakeholders on the information guide:

- Advanced Energy Management Alliance (AEMA)
- Voltus Energy Canada

This feedback has been posted on the engagement webpage.

Note on Feedback Summary and IESO Response

The IESO appreciates the feedback received from stakeholders. The table below responds to the feedback received and is organized by each topic. This document is provided for information purposes only. It does not constitute, nor should it be construed to constitute, legal advice or a guarantee, offer, representation or warranty on behalf of the IESO.

Additional Sensitivity Analysis

Feedback	IESO Response
Stakeholders are supportive of the High 15-of-20 baseline. Some also support transitioning to a High 5-of-10 baseline as it may provide a more accurate assessment of Hourly Demand Response (HDR) performance, particularly in shoulder seasons.	The results of the baseline review indicate that the High 15-of-20 and the High 5-of-10 baseline methods with an in-day adjustment factor (IDAF) are highly accurate predictors of load in absence of an activation. Under no scenario did the unadjusted version of either baseline method increase accuracy compared to the adjusted methods. The High 5-of-10 with IDAF baseline was 0.1% more accurate at predicting load in absence of an activation across the full study timeframe compared to the High 15-of-20 with IDAF baseline. The IESO is currently conducting analysis exploring differences in baseline performance between peak and shoulder months and will present results at the December Resource Adequacy engagement session.
Stakeholders are supportive of moving to applying the baseline method at the contributor-level to assess HDR resource performance, and have provided IESO with individual contributor data for further analysis.	The IESO is currently undertaking the contributor-level analysis and will present the results comparing application of baseline method at the contributor-level vs. the (status quo) resource-level during the December Resource Adequacy engagement session
In addition to applying the baseline method at the HDR individual contributor-level, the IESO should also qualify HDR resource capacity for the Capacity Auction at the contributor-level	The qualified capacity framework for all resource types is done at the resource level which aligns with how the HDR resource bids, is activated and settled by the market. Demand Response stakeholders have previously communicated that requiring identification of HDR resource contributors prior to running the auction (and being unable to change them) would create business challenges and limit the scalability/flexibility benefits that HDR participation in the Capacity Auction offers.

Alignment of Results and Implications

Feedback	IESO Response
Stakeholders cautioned against using only non-dispatch days to assess baseline accuracy, as actual behaviour during activation day – such as unexpected outages, ramp downs, pre-cooling, and battery charging – could lead to dramatic impacts on the baseline and a reduction in baseline accuracy. Similarly, some stakeholders also suggested the baseline review analysis should focus on days when resources received standby notices as on non-standby days, loads do not have an incentive to maintain a high load. Stakeholders communicated that on days when the resources are not on standby, there is no incentive to maintain a high load and if a load does decrease consumption, that will be reflected in the forward-looking baseline. Counting a low load, non-standby day twice will result in inappropriate measurement, and the High 15-of-20 methodology already captures the low load days.	The use of non-dispatch days to assess the accuracy of the current baseline with In-Day Adjustment Factor (IDAF) relative to a set of alternatives is required in order to have a benchmark (actual load) against which to assess the accuracy of each baseline estimation method. Leveraging non-dispatch days to assess baseline accuracy is the standard approach used in studies from other jurisdictions that were reviewed to inform the scope of the HDR baseline analysis, and this approach was presented to stakeholders for feedback at the April 2021 and June 2021 engagement meetings. IESO notes that the High 15-of-20 methodology removes the five lowest load Suitable Business Days from the baseline calculation to account for days where loads did not maintain a high load for whatever reason. In light of this recent feedback, the IESO has considered analyzing baseline performance on the non-activation days on which HDR resources received standby notices but the limited number of non-activation standby days would prevent drawing rigorous conclusions. The IESO is conducting analysis exploring differences in baseline performance between peak months (which may better reflect likely operational activation conditions) and shoulder months and will present results at the December Resource Adequacy engagement session. Further discussion with stakeholders has clarified the double-counting concern is regarding the application of an In-Day Adjustment (to account for load behaviour on the activation day) to the High 15-of-20 baseline (which reflects recent historic load behaviour). The IESO does not believe this is a double-counting scenario, noting that to support system balancing, the IESO needs HDR resources to provide incremental curtailment when activated, rather than just be consuming less energy relative to the same hours in recent days.

Additional Implications

Feedback	IESO Response
Stakeholders take issue with the application of a single baseline method to aggregations composed of both thermally-light (weather sensitive), thermally-heavy (non-weather. sensitive), and batch loads. To this end, being able to assign baselines on a site-by-site basis likely provides a more accurate view of HDR performance.	The results of the contributor-level baseline analysis will inform whether there are contributors for which an unadjusted baseline methodology improves resource-level accuracy. Similar studies conducted in other jurisdictions indicate that typically in-day adjustments improve baseline accuracy regardless of whether the load is weather sensitive or non-weather sensitive. See PJM's *Empirical Analysis of Demand Response Baseline Methods (2011)* and ISO New England's *Proposed Changes to the Demand Response Baseline* (2015) referenced in the appendix of the April 22, 2021 Resource Adequacy engagement presentation.
Each contributor should be able to schedule outages, with the resource reducing its offer into market accordingly, without risking an outsized impact to the entire resource's baseline.	The IESO plans to present an update on the contributor outage management issue at the December stakeholder session.

Other

Feedback	IESO Response
Stakeholders do not accept the findings that determined the IDAF will no longer be considered and believe this should be re-assessed at the contributor-level. Specifically, an opt-out of the IDAF should be provided for thermally-heavy contributors.	IESO is working with stakeholders to undertake analysis in order to inform whether contributor-level assessment improves accuracy of HDR resource performance (including baseline methods with and without an IDAF).