

Technical Session – HDR Qualification and Demand Curve Review

Meeting Notes

Date: October 25, 2022

Time: 10:00 AM EST

Facilitator: Dale Fitzgerald, Supervisor, Capacity Development & Integration

Attendees

Name	Organization
Kathleen Spees	Brattle Group
Andrew Thompson	Brattle Group
Alvin Zhang	Bruce Power
Paul Luukkonen	Customized Energy Solutions
Robert Tremblay	Energy Storage Canada
Sarah Griffiths	Enel X
Abi Ade	Empowered
Rashmi Brackenbury	Enwave Energy
Patrick Casey	Essex Energy Corporation
Murray Wong	Evolugen
Karen Wharton	Great Circle Solar
Perry Pogany	GreenFirst Forest Products
Eveline Pelletier	HQEM
Steven Pichette	Iroquois Falls Power Corp
Bruce Armitage	Lake Shore Gold
Utilia Amaral	MarketStep

Name	Organization
Rob Coulbeck	Ontario Energy Association
Rose DeSantis	Ontario Power Generation
Daniel Tadros	Ontario Power Generation
Avi Lipsitz	Power Advisory
Dave Forsyth	Rodan Energy Solutions
Roman Grod	Rodan Energy Solutions
Forrest Pengra	Seguin
Charles Conrad	TC Energy
Charlie Recoskie	Validus Power Corp.
Erika Fleming	Voltus Energy Canada
Michael Pohlod	Voltus Energy Canada
Katherine Goss	Workbench Energy
Jennifer Jayapalan	Workbench Energy
Aaron Lampe	Workbench Energy
Heather Sears	Workbench Energy
Allen Freifeld	
Adam Cumming	IESO
Dale Fitzgerald	IESO
Emma Ferner	IESO
Fahad Rashid	IESO
Jason Grbavac	IESO
Mike Risavy	IESO
Vipul Agrawal	IESO

Discussion on Demand Curve Review – Emma Ferner, Andrew Thompson

IESO provided a recap of the drivers, scope, objectives of the Capacity Auction demand curve review presented at the August engagement and an overview of next steps for the review. IESO made clear the Brattle analysis presented is not a formal recommendation, but rather outlines the various implications and options for updates to the demand curve ahead of the 2023 Capacity Auction. IESO will be seeking stakeholder feedback on the analysis to help inform recommendations which will be presented at the November 2022 engagement session.

Brattle provided an overview of the downward-sloping demand curve, including a description of each of the current parameters and how the existing reference price and maximum auction clearing price compare to historic auction clearing prices. Stakeholders commented on the general downward trajectory of clearing prices since 2015 in both the summer and winter seasons.

Brattle explained the demand curve analysis conducted in 2019, noting that the reference price was chosen to enable a range of resource types. The 2019 recommendations included a reference price update to \$542/MW-day ICAP and an increase to the maximum auction clearing price of 2x the reference price. The 2022 updated analysis results in a reference price update of \$644/MW-day UCAP, and a maximum auction price of \$965/MW-day UCAP or \$1287/MW-day UCAP depending on whether a 1.5x or 2x multiplier is applied to the reference price, respectively.

Stakeholders requested clarity on whether the de-rate from nameplate capacity to installed capacity (ICAP) for the reference technology is included in the conversion from an ICAP based price to an unforced capacity (UCAP) based price. This de-rate should be considered to avoid underestimating the cost of new entry of the reference resource. IESO agreed to take this comment back and revise as necessary for the Design Memo to be presented in November.

Brattle presented examples of how the shape of the demand curve would change under different price updates, and the potential impact of different updates on auction clearing prices and quantities. Stakeholders raised concerns as to why IESO would increase the reference price and maximum auction clearing price when prices in the Ontario market and other North American markets have never reached these levels, and there are currently resources that do not clear the auction.

IESO reiterated that the analysis is not a formal recommendation and that the auction objective of clearing sufficient capacity to meet emerging Resource Adequacy needs will be factored into the ultimate price updates. IESO also clarified that increasing the reference price and growing the target capacity would increase the likelihood of more capacity clearing the auction than under the status quo. Further, as scarcity conditions emerge, the IESO must ensure that the demand curve is signalling this emerging need to the market in order to attract participation, including from imports.

Stakeholders raised concerns regarding annual increases in target capacity being offset by parallel increases to import limits, meaning the opportunity is not growing for resource internal to Ontario. IESO explained that an increase in the import limits does not guarantee imports participating in the auction will secure an obligation as all resources must compete for a capacity position.

Brattle closed the discussion by outlining future considerations for the demand curve, including an evaluation of the choice of reference technology, whether the maximum auction clearing price should be updated more dynamically, and considerations for the shape and width of the demand curve.

IESO requested stakeholders provide feedback on the analysis by November 4, 2022 to inform a formal recommendation on updates to the demand curve. Stakeholders can find further details of the analysis in the [Brattle Demand Curve Presentation](#) and [Discussion Brief 3.0 - Demand Curve Review](#).

Discussion on HDR Qualification – Dale Fitzgerald, Fahad Rashid

IESO shared a presentation outlining the proposals for an HDR availability de-rate that are currently under consideration, and the pros and cons of each proposal. Details of each proposal can be found in [Discussion Brief 2.1 - HDR Performance Thresholds](#).

The stakeholder proposals are (1) end-of-period availability assessment based on the ERCOT model, (2) availability de-rate using the lowest historical bid value from the top 200 hours of Ontario demand in the previous obligation period, and (3) availability de-rate based on a historical baseline assessment from the top 200 hours of Ontario demand. The IESO proposals are (1) in-period obligation and availability payment adjustment based on capacity test performance, and (2) revised Standby Availability Charge (SAC) and higher dispatch charge to incent proper behaviour.

For stakeholder proposal (1) based on the ERCOT model, stakeholders confirmed this proposal would provide the IESO with a mechanism to confirm, via a secondary dataset, whether energy market bids are actually indicative of HDR availability in a given hour. Stakeholders also reiterated how this approach would incent HDR resources to update bids to reflect availability and ensure a sufficient volume of contributors are registered to meet the obligation in any given hour.

IESO indicated there would likely be challenges associated with establishing and administering a Firm Service Level (FSL) model. Stakeholders suggested for most loads, the process would be relatively straight-forward, but there would likely be additional complexity for contributors that are not amenable to a FSL baseline, such as an HVAC-dependent commercial load.

IESO raised concerns regarding the reliance on aggregators to submit a contributor FSL that must be accepted as accurate by the IESO. Stakeholders indicated in ERCOT the FSL values are occasionally audited, and rejected or increased in the event the contributor does not reduce to the elected FSL during a test. This approach would introduce additional efforts for the IESO to manage. IESO reiterated that it does not have visibility or access to contributor-level data, which would introduce an additional challenge in terms of validating an FSL. Stakeholders suggest the FSL could still be audited at the resource-level.

In relation to stakeholder proposals (2) and (3), stakeholders asked why IESO takes such issue with relying on energy bids when the model only allows aggregators to assess availability one hour prior to an event due to the in-day adjustment. IESO reiterated the expectation that bids reflect capacity availability, which should be known by the aggregator prior to the activation being called. The purpose of the in-day adjustment is to normalize load on the day of an activation to the baseline on the High 15-of-20 average consumption.

On IESO proposal (1), stakeholders asked whether the capacity test would still inform a Performance Adjustment Factor (PAF) to be applied in future years. IESO confirmed it would. Stakeholders questioned how this proposal would incentivize resources to reflect true availability in energy market bids. IESO suggested that the proposal incentivizes HDR to de-rate to a value that they know is consistently available on average throughout the obligation period. This demonstrates to the IESO that capacity is actually available.

Stakeholders asked whether a re-test would be allowed in the event the capacity test was not a true reflection of ability to deliver their full obligation. IESO asked for clarification on why HDR would require a re-test if they will be afforded greater flexibility to schedule and conduct their own capacity tests, potentially multiple times within the five-day test window. Stakeholders explained performance is highly dependent on when the test week is called, and also have no control over the timing of third-party outages. Stakeholders also requested whether the proposal to address large contributor outages could extend to test scenarios. IESO agreed to take back these comments for further consideration.

On IESO proposal (2), stakeholders reiterated that any proposal which relies on the standby trigger price is fundamentally flawed because the trigger is not determined based on real-time market dynamics, it is based on historical analysis. IESO acknowledges this feedback, reiterating that the SAC

is in lieu of the ability to assess availability over the top 200 hours, as is the case with other auction resources. Stakeholders noted a supply cushion approach to HDR standby is not preferred.

Stakeholders requested IESO reconsider implementation of a historic proposal to enable multiple virtual HDR resources per participant per zone, noting that the flexibility benefits of this proposal are much greater in the context of the proposed enhancements. Stakeholders also requested the IESO provide an indication to stakeholders of when the testing week will occur in order to manage risk related to the in-period availability de-rate. IESO committed to taking these requests back for consideration.

IESO concluded the session by thanking stakeholders for their participation. Stakeholders are encouraged to contact the IESO if they require an extension on the feedback submission deadline of November 4, 2022.