

Stakeholder Feedback and IESO Response

Resource Adequacy Engagement, Capacity Auction – November 23, 2021 Webinar

Following the November 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:

- Advanced Energy Management Alliance
- AMPCO
- Capital Power
- Consortium of Renewable Generators, Energy Storage Providers, and the Canadian Renewable Energy Association
- Electricity Distributors Association
- Energy Storage Canada
- Evolgen by Brookfield Renewable
- Ontario Power Generation
- Ontario Sustainable Energy Association
- Power Workers Union
- Voltus Energy Canada Ltd.

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.

Capacity Auction – 10x Availability Assessment Charge

Feedback	IESO Response
<p>Stakeholder looking for clarification on when the availability assessment charge of 10x the availability payment applies and whether it applies when resources are placed on standby regardless of emergency conditions, or if it applies only when emergency conditions have been declared before the standby notice.</p>	<p>The 10x augmented availability assessment charge will apply when the IESO issues a system emergency advisory, such as a level 1 NERC Energy Emergency Alert (EEA-1). In addition, for Hourly Demand Response (HDR) resources, the augmented availability assessment charge will apply whenever a resource is put on standby, regardless of whether a system emergency advisory is issued. The augmented availability assessment charge takes into account that HDRs are the only resource that is not subject to an availability de-rate during qualification due to their unique participation framework. Applying an augmented availability assessment to HDRs in lieu of an availability de-rate (applied to all other resource types) provides for fair treatment holistically between capacity qualification and performance assessments across different resources in the Auction.</p>

Feedback	IESO Response
<p>Stakeholders requested the IESO provide the analysis/evidence that led to the 10x availability assessment charge proposal. Some stakeholders suggest that the charge is overly punitive and will discourage participation in the Capacity Auction.</p> <p>Stakeholder concerned that only HDR Capacity Market Participants are exposed to the 10x availability assessment charge.</p>	<p>The augmented availability assessment charge is meant to address two key considerations.</p> <p>First, to properly signal the importance for availability at times of need – a key aspect of the capacity product. The IESO revised its initial proposal of a higher capacity charge to better align the performance assessment with the product (i.e., availability). Furthermore, the experience with the 2x non-performance factor has not appeared to provide a strong enough incentive to ensure capacity is available at times of need. The IESO believes the higher hourly assessment charge to be a reasonable additional financial incentive to signal the importance of availability and improve performance, particularly at times of acute reliability need.</p> <p>Second, the augmented availability assessment for HDR resources on standby is essential to ensure fairness and balanced treatment between those resources that are subject to availability de-rates during capacity qualification (generators, dispatchable load, etc.) and those that are not (HDR). The unique HDR participation framework, including the standby requirement, means there is no real-time availability data for the IESO to use to determine an availability de-rate in UCAP calculations. Applying an availability de-rate to only a subset of resources creates a fundamental fairness concern, which has been identified by stakeholders during earlier engagements. The augmented availability assessment during standby will account for the lack of an availability de-rate factor for HDR resources and aims to ensure balanced treatment in the Auction while accounting for unique participation frameworks. The IESO has provided an example in the Appendix to help illustrate this concept.</p>

Feedback	IESO Response
<p>Stakeholder is concerned that the implementation of the 10x availability assessment charge is premature given their disagreement with measurement standards used for HDR performance, as well as the inability of HDR resources to manage contributor outages.</p>	<p>The IESO has previously provided explanations and analysis which demonstrate the impact of load reductions prior to an activation on the calculated baseline on which a resource's performance is measured.</p> <p>The results of the HDR baseline methodology review concluded that the current 'High 15-of-20 with in-day adjustment' method is an accurate method for assessing HDR resource performance relative to other options in the context of the HDR participation model design. The IESO will proceed with planned Auction enhancements based on the empirical evidence that the method used to assess HDR resource performance accurately reflects incremental curtailment at the meter during an activation.</p> <p>Nevertheless, the baseline review identified narrow circumstances where contributor outages can negatively/positively impact assessed performance, and the IESO intends to further engage with stakeholders on potential solutions separately from the 2022 Auction enhancements.</p>

Feedback	IESO Response
<p>Stakeholder suggests the \$100/MWh price trigger for stand-by notifications was never designed to be a signal of acute system need or an appropriate threshold for a 10x availability charge.</p>	<p>It is important to note that, aside from HDRs, all other resources in the capacity auction must submit and maintain bids and offers from pre-dispatch through to real-time and are further subject to assessment on this basis. In other words, those resources must be on standby 100% of the time. The \$100 price trigger was phased in over a 2-year period starting in 2020 after engagement with demand response stakeholders and provides a reasonable basis to signal that HDR resources need to be available for the hours of availability throughout the day in response to market price triggers. Capacity made available during real-time operations is a critical aspect of the capacity product.</p>
<p>HDR stakeholders concerned that if they adjust their bid during a standby or emergency event, they will be exposed to the 10x availability charge and if they don't adjust their bid, they are exposed to a failure. HDR stakeholders would prefer to be tested to their bid.</p> <p>An aggregator suggests that the 10x availability charge framework will incent resources to maintain offers even when they are not available and risk a failed dispatch during an emergency event.</p>	<p>The purpose of the augmented availability assessment charge is to reinforce the importance for acquired capacity resources to be available during instances of acute reliability need.</p> <p>All market participants are subject to compliance with the Market Rules, which includes requirements to submit, maintain and adjust bids that are an accurate reflection of true capability and to comply with dispatch instructions. Market participants in potential breach of the Market Rules may be subject to investigation by the IESO's Market Assessment and Compliance Division. The IESO also has the authority under Chapter 7 of the Market Rules to remove a participant from participation as a capacity market participant or refuse their participation in a subsequent auction if the resource's participation would negatively impact the reliable operation of the IESO-controlled grid.</p>

Capacity Auction – Performance Adjustment Factor (PAF)

Feedback	IESO Response
<p>Stakeholders commented that implementing a PAF, beyond the already established penalties, exposes participants to incremental and punitive penalties that will reduce participation in the Capacity Auction. Stakeholders expressed concern with penalties being carried forward and recommend the IESO revisit the PAF concept to better align incentives/penalties for performance within the obligation period.</p>	<p>Settlement charges are assessed based on performance within an obligation period. The IESO believes qualifying capacity using historical data (performance, availability, production, etc.) is a fair, proportional and well-established approach that also accounts for resource characteristics and provides the IESO with confidence in the reliability of resources secured in the Auction.</p>
<p>Stakeholder concerned that the timelines for implementing the PAF in the December 2023 auction, using data from the performance assessments in 2022, did not allow appropriate time for the participants to strategically adjust capacity auction enrollment and offers in the December 2021 auction.</p>	<p>In response to stakeholder feedback, the IESO has revised the implementation schedule for PAFs. PAFs will apply in UCAP calculations beginning with the 2024 Capacity Auction using assessed performance during the summer 2023 and winter 2023/24 obligation periods (the 2022 Auction year). Performance in the summer 2023 and winter 2023/24 obligation periods will be assessed under the new testing and performance framework described in the design document for the 2022 Capacity Auction enhancements. This communication was provided to stakeholders via email on November 29, 2021 and is also posted on the Resource Adequacy stakeholder engagement page.</p>

Feedback	IESO Response
<p>Stakeholder inquiry as to the approach that will be taken with respect to the applicable PAF if a resource does not participate in the Capacity Auction for a year after the PAF is implemented. In this example, a resource participates in one auction year, but then decides not to participate or does not secure an obligation in the following auction year but participates and secures an obligation in the subsequent auction year (3rd year). In this scenario, what PAF will apply? Stakeholder suggests that if a resource takes a one-year hiatus, then its PAF should be based on the resource average, rather than its own historical performance.</p>	<p>For new HDR resources or resources for which data are not available (e.g., through a lack of participation in a requisite previous obligation period), a fleet-specific seasonal class average will be used to determine the PAF.</p>
<p>Stakeholders are concerned about the impacts of a reduced UCAP for demand response market participants due to underperforming contributors. Stakeholders are also concerned that an underperforming contributor will be able to indefinitely evade the consequences of underperformance by moving to different aggregators.</p>	<p>The qualified capacity framework applies at the resource level, which aligns with how an HDR resource bids, is activated and is 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.</p> <p>The IESO continues to hold the position that the role of the aggregator is to manage interactions and contracting arrangements with contributors. Once PAFs are applied in UCAP calculations, the IESO expects all capacity auction participants will take steps to ensure they are able to perform to their registered capability under the new performance assessment framework to ensure a PAF does not de-rate their capacity in future auctions.</p>

Capacity Auction – Demand Response Feedback

Feedback	IESO Response
<p>Stakeholder requests that the IESO should include Loss Factors in the calculation of UCAP for demand response resources. This suggestion has been provided several times in the past.</p>	<p>Please see previous response to this feedback posted on the resource adequacy engagement webpage.</p>
<p>Stakeholder suggests the IESO should consider revising the current baseline mechanism, taking weather sensitivity into account for the timing of test activations.</p>	<p>The baseline methodology has been comprehensively reviewed and a summary of the results were provided at the September 23, 2021 and December 15, 2021 Resource Adequacy stakeholder engagements. Only one HDR resource included in the study demonstrated characteristics that would indicate it was weather sensitive. Further, because the current baseline with in-day adjustment was a more accurate methodology than the baseline without in-day adjustment for all loads included in the analysis, there is no strong rationale for applying different baselines to weather sensitive versus non-weather sensitive loads.</p>

Feedback	IESO Response
<p>Comment from stakeholder that if a contributor chooses to pursue an Industrial Conservation Initiative (ICI) signal over the HDR dispatch then the baseline mechanism severely punishes the contributor for dispatching too early.</p>	<p>The impacts of the ICI program are factored into both the planning timeframe demand forecasts that inform the Capacity Auction’s target capacity and the operational timeframe demand forecasts that inform resource scheduling and dispatch. Capacity from HDR resources acquired through the Capacity Auction must represent incremental curtailment capability beyond that curtailment for ICI purposes to avoid “double-counting” the same MW in resource planning.</p> <p>When HDR resources are activated, their schedules indicate quantities of <u>incremental curtailment</u> to be delivered during each hour of the activation – the IESO Control Room and balancing tools expect to see a commensurate change in load. If an HDR resource reduces consumption <u>prior to an activation</u> for ICI or any other reason, the market participant is expected to update its energy bid accordingly to reflect the reduced capability. The in-day adjustment portion of the baseline calculation appropriately captures the reduced quantity of incremental curtailment provided to the system in real-time.</p>

Capacity Auction – Other clarifications for the December 2022 Capacity Enhancements

Feedback	IESO Response
<p>Stakeholder requesting confirmation that in addition to the Capacity Test, resources could be requested to perform a dispatch test up to twice per obligation period. Stakeholder suggests that dispatch tests be limited to once an obligation to keep the total number of potential tests at the current number of two per obligation.</p>	<p>The IESO, the Market Surveillance Panel and stakeholders have highlighted concerns around the dispatch performance of some participants who have secured capacity obligations in past Auctions. Compliance with dispatch is a critical aspect to ensure the reliable operation of the IESO-controlled grid.</p> <p>To this end, the IESO will continue to have the discretion to conduct dispatch tests with the purpose of verifying whether a resource is able to follow a dispatch instruction in compliance with submitted bids or offers. If this has already been verified through an in-market activation within an obligation period, a dispatch test may not need to be conducted. Dispatch compliance failures may be referred to the IESO’s Market Assessment and Compliance Division, as appropriate. The IESO also has the authority under Chapter 7 of the Market Rules to remove a participant from participation as a capacity market participant or refuse their participation in a subsequent auction if the resource’s participation would negatively impact the reliable operation of the IESO-controlled grid.</p>

Feedback	IESO Response
<p>Stakeholder suggests that HDR resources should receive an administrative fee for performing the Capacity Test, otherwise the test will bring financial harm to the resources.</p>	<p>The new testing framework will put the onus on the resource to demonstrate its ability to get successfully scheduled and deliver capacity equal to its cleared ICAP within a defined testing window. This new framework will provide participants with additional flexibility to demonstrate their ability to deliver on their cleared ICAP capability and thereby avoid the financial impact of performance charges and future PAFs compared to the IESO-scheduled capacity tests under the current testing framework. All resources (HDRs, dispatchable loads and generators) will need to submit 'price-taker' bids and offers to help ensure a successful scheduled in-market activation. Participants will continue to be eligible for out-of-market payments for dispatch tests and EOSCA (Emergency Operation State Control Action) activations.</p>
<p>Please clarify how resources are scheduled during the 5-day capacity test window. Do resources have discretion to choose any block of hours in the availability window, or does the IESO decide?</p> <p>Can a resource attempt several activations during the 5-day window and choose to submit only the best test performance for the IESO's review?</p>	<p>The answer is yes to both questions. Participants can choose when to get scheduled within the hours of availability for the 5-day window. The participants can decide which test to use for assessment and notify the IESO, no later than 5 business days after the end of the testing window, of the specific day, hours and dispatch intervals for which they wish their performance to be assessed. Failure to notify the IESO by the deadline will result in non-performance charges.</p>

Capacity Auction – Input on how the Point-in-time Rules could be enhanced

Feedback	IESO Response
<p>Stakeholder recommends including this discussion in a broader engagement with stakeholders regarding transition planning to the MRP.</p> <p>Stakeholder suggests that if MRP is implemented mid-way through a capacity obligation period, it would be reasonable to ensure that the preceding capacity auction has clear rule/plans for transition to the renewed market, including new requirements for participant registration or operations.</p>	<p>The IESO agrees that this discussion should also be part of the broader engagement for the transition to the MRP, though it could be important for the capacity auction point-in-time rules to also recognize rule changes not directly associated with the introduction of MRP.</p> <p>The MRP is expected to come into service in late 2023 which is part way through the winter obligation period from the 2022 capacity auction. Due to the magnitude and nature of the changes that the MRP will bring, the requirements necessary to make the transition to the new market are not all clear at this time and the clarification to these requirements cannot be reflected in the rules and manuals prior to the 2022 capacity auction. Additionally, the need for a market rule or market manual change may not emerge until after the new market has been running for a period of time, meaning a change may be identified later and need to be rectified despite the capacity auction point-in-time rule.</p>
<p>Stakeholder suggests that to facilitate an effective Capacity Auction, Market Rules must be finalized well in advance of the Pre-Auction Report being published. Stakeholder recommends that the rules be set at least 6 months in advance of the Capacity Auction for the next commitment period. Only through these timelines will Auction participants have an understanding of the set of rules that they will be participating under, and therefore can participate to their full ability in each Auction.</p>	<p>The IESO understands this feedback and is supportive, and believes an earlier point-in-time effective date could be considered as part of future enhancements for a future auction. However, the 2022 capacity auction will already introduce a substantial number of enhancements to the Market Rules and Market Manuals. A future auction, post 2022, for which the currently introduced enhancements will already be implemented, could be a more appropriate time to revisit the discussion of shifting the point-in-time effective date.</p>

Capacity Auction – General comments and feedback

Feedback	IESO Response
<p>Stakeholder recommends that the IESO provide a more detailed schedule of planned future changes to the IESO’s capacity auction, with linkages to the IESO’s Enabling Resources stakeholder engagement.</p>	<p>IESO is planning further engagement in early 2022 on future enhancements to the auction framework, well in advance of those enhancements being implemented.</p>
<p>Stakeholder suggestion that eliminating shoulder months from the program might allow resources to better represent themselves during June to September, January and February (expected peak times).</p>	<p>The IESO cannot always predict when adequacy events may occur. The availability must-offer provision must be sufficiently broad to cover daily business day peaks.</p>
<p>Stakeholder is interested in the implementation of market-based mechanisms to divest capacity obligations as a way to mitigate commercial and operational risks for the participants. This would allow participants to adjust their obligations on a shorter-term basis without having to relinquish the entire commitment period.</p>	<p>IESO is interested in further discussions with stakeholders on how this suggestion may improve auction outcomes for all stakeholders.</p>
<p>Stakeholder requests that the designations of zonal group limits be accompanied by explanations of why the limit exists (e.g., reference to transmission limiting elements causing the limits, results of IESO system studies, etc.)</p> <p>Such explanations should also be provided in the IESO’s designation of individual zonal limits, as this additional information allows participants to better understand auction dynamics and optimize auction efficiency.</p>	<p>The methodology used to establish the zonal constraints in the auction have been discussed with stakeholders under the previous Transitional Capacity Auction phase 2 engagement sessions and will continue to be utilized for setting the zonal constraints in the auction going forward.</p> <p>Should any future changes to the methodology be considered, these would also be discussed with stakeholders well in advance of their implementation.</p>
<p>Stakeholder suggests implementing a maximum penalty cap to limit the total penalty a capacity obligation holder could be exposed to in a worst-case scenario. This will prevent stakeholders from pricing in excessive downside exposure in their offers or trying to shed their obligations if they face uncertainty.</p>	<p>There are current provisions within the Market Rules for a participant to buy out of their obligation, which would mitigate some of the financial impacts. The IESO is also interested in more detailed stakeholder perspectives on this issue.</p>

APPENDIX

Illustrative Comparison Example – Availability De-rate (for Generators and Dispatchable Load) and Augmented Availability Assessment (for Hourly Demand Response)

The availability de-rate is used in unforced capacity (UCAP) calculations for generators and dispatchable loads to derive a resource adequacy value based on a resource's historical reliability metrics (availability/production during peak/forced outage rate). The availability de-rate is the key component of the unforced capacity (UCAP) value of these resources and provides a levelized basis for assessing the resource adequacy contribution of resources regardless of type against system needs. Unlike other generation and dispatchable load resources, Hourly Demand Response (HDR) will not be subject to an availability de-rate in the determination of its UCAP due to a lack of equivalent historical data. They will however be subject to an Augmented Availability Assessment instead to maintain overall fairness and reliability in the Auction.

To illustrate the key differences in this issue, an example is provided below that compares two resources, a 100 MW dispatchable load and a 100 MW HDR.

The 100 MW Dispatchable Load will be subject to the following availability de-rate during capacity qualification:

$$\text{UCAP} = \text{ICAP}(\text{MW}) \times \text{Availability De-rate} \times (1 - \text{Performance Adjustment Factor (PAF)})^1$$

Availability De-rate = Median (Hourly bids quantity / maximum seasonal energy bid quantity) in top 200 hours of Ontario demand per season.

Let's assume that during a portion of this historical period (i.e. top 200 hours/season) this 100 MW dispatchable load had outages and/or had submitted lower real-time energy market bids (for example, due to responding to ICI). As a result, it has an availability de-rating factor of 0.25 or 25% applied.

- This means that the 100 MW ICAP is de-rated by 0.25 or 25% to yield a UCAP of 75 MW. This now represents the maximum amount that the resource can offer into the Auction (rather than the 100 MW).

Because of its unique participation framework, the IESO has no equivalent data or information to assess the historic real-time availability of the 100 MW HDR resource because they are only required to maintain bids through real-time when placed on standby and data submissions are only required after an activation. In the absence of data, the IESO cannot verify the historical availability of the HDR resource. As a result, no availability de-rate can be applied and the HDR resource will be allowed to offer the full 100 MW into the Auction.

Issue: The non-applicability of the availability de-rate to HDR resources represents a fundamental reliability and fairness problem in how HDR resources are qualified to offer versus other resource types in the Auction.

From a reliability perspective: In the absence of an availability de-rate for HDR resources during qualification, there is a much greater need for and reliance on the use of augmented performance

¹ Performance Adjustment Factors (PAFs) will not be applied in the 2022 Auction

assessments for HDR resources during the obligation period to emphasize the expectation that the resource's cleared MWs must be available at times of need.

From a fairness perspective: In the absence of an availability de-rate for HDR resources during qualification, there is a misalignment between the cleared capacity procured from HDR resources in the Auction and that of the other resources (which have been de-rated for historical reliability metrics during qualification). Compared with HDR resources, the resources subject to an availability de-rate factor will be eligible for a lower capacity obligation in the Auction. In the example above, the HDR resource can still offer (and be paid for) the full 100 MWs whereas the 100MW dispatchable load can only offer 75MW. Using 2021 Auction clearing prices, the 25% de-rate represents a reduction of more than **\$800,000** in Capacity Auction revenue per obligation period.²

To account for the inapplicability of an availability de-rate to HDR resources and to ensure all resources are treated fairly in the Auction (i.e. from qualification through to assessment), the HDR resource will be subject to an augmented availability charge during the times when it has been put on standby.³ The placement of a HDR resource on standby indicates the potential need for the resource in real-time.

For example, if during the obligation period the 100 MW HDR resource has received a standby notification and subsequently reduced its bids for all of the hours of availability from 100 MW to 75 MW, it would be subject to an augmented availability charge in the amount of **\$66,250**.^{4 5} The augmented availability charge assessment, while not identical to a de-rating factor, is meant to provide an appropriate offset to account for the lack of any availability de-rate during capacity qualification –and a strong financial incentive to ensure that the portfolio of offered/cleared capacity from HDR resources in the Auction is actually reflective of the amount that will be available at times of need. This also helps to maintain an overall fairness in the Auction while accounting for the characteristics of different resource types.

² \$265/MW/Day x 25 x 125 business days.

³ All resources will be subject to augmented availability charge assessment when the IESO has issued an emergency advisory notice.

⁴ \$265/MW/Day x 10 x 25 MW

⁵ Historically, bid reductions from HDR resources on standby has been rare