

# Discussion Brief 1.0: HDR Qualification and the Standby Availability Charge

## Overview

Under the current capacity auction framework, a capacity auction participant must enroll the maximum quantity of capacity that it is capable of providing. There is no availability de-rate applied to the resource's enrolled capacity, and if a resource clears the entire amount enrolled in the capacity auction, that quantity is the resource's capacity obligation for a given commitment period.

## Objective

Key objectives of the capacity auction include:

- Procuring capacity in a transparent, open, and fair manner, with all resource types treated as equal as possible; and
- Ensuring that the capacity product secured through the auction contributes equally towards meeting resource adequacy needs while considering the unique characteristics of the underlying technology. The capacity product secured through the auction is the availability of MWs during the availability window of an obligation period. This availability is represented by offers and bids in the market that accurately reflect a resource's capability
- Furthermore, the demonstrated performance capability by a resource should also be reflected in the qualified capacity methodology, to ensure only reliable capacity is procured through the auction mechanism.

To help meet these objectives a capacity qualification process for all resources is proposed to be used to derive an Unforced Capacity (UCAP) value that a resource can offer into the auction.

## Market Surveillance Panel Recommendation

The Market Surveillance Panel (MSP) monitors, investigates and reports on activities and behaviour in the IESO-administered markets in Ontario's electricity sector. The MSP prepares semi-annual monitoring reports on the IESO-administered markets. In Report 35, published August 2021, **Recommendation 3-1** states:

*The IESO should develop structural solutions for Capacity Auction resource performance failures, with an emphasis on stronger penalties. In general terms, penalties should work together with a Qualified*

*Capacity process to ensure that capacity payments net of penalties reflect each resource's ability to deliver capacity when dispatched.*

The proposal below was presented as part of the 2022 auction enhancement package and seeks to address MSP Recommendation 3-1 by developing a de-rate for HDR resources that is equivalent to that of other capacity auction resource types in lieu of real-time availability data.

## IESO Proposal

The approach to qualifying capacity for all resources is generalized as follows:

$$\text{UCAP (MW)} = \text{ICAP (MW)} \times \text{Availability De-Rating Factor} \times (1 - \text{PAF})$$

Where,

- UCAP (Unforced capacity) is the maximum amount, in MW, that a resource is qualified to offer into the Capacity Auction as an output of the Capacity Qualification process.
- ICAP (Installed capacity, in the context of the Capacity Auction) should reflect the maximum expected capability in MWs of a resource given ambient temperature and operating conditions, as specified by the Capacity Auction Participant.
- Availability De-Rating Factor is based on a resource's historical data.
- PAF is the Performance Adjustment Factor, applicable to an individual resource, as based on assessed performance during historical seasonal capacity test performance assessments.

Due to lack of access and visibility into the real-time availability of an HDR resource, it is not possible for the IESO to determine the behavior of an HDR resource in the energy market in the same way it does for other capacity auction resources. This means an Availability De-Rating Factor cannot be calculated by IESO for HDR resources.

IESO proposed a Standby Availability Charge that is designed to incentivize resources to make their full capacity obligation available in the energy market when they receive a Standby Notification. A Standby Notification is indicative of system need, signaling an increased likelihood that capacity from HDR Resources may be required to meet demand in real-time. The Standby Availability Charge incentivizes an HDR resource to 'self-derate' in the auction to a value that it can reliably make available in the energy market at any time during the obligation period. In other words, the avoidance of a Standby Availability Charge is the behaviour that should drive an HDR participant to self-derate to its true capability in the pre-auction period.

The charge would apply when an HDR resource is placed on standby during peak months of each season, and would be equal to 5x the existing Availability payment, applied to the MWs not made available. IESO also proposed to cap the number of Standby Notifications for which a Standby Availability Charge would apply to 25, per obligation period.

The 5x multiplier for the Standby Availability Charge is meant to establish a qualification process for HDR resources that is commensurate with how a Dispatchable Load resource will be qualified under the new qualification process (top 200 hours of Ontario demand per season i.e., top 5% of demand).

The IESO proposed the Standby Availability Charge, in addition to the existing Availability Charge that will continue to apply. The existing Availability Charge utilizes the monthly non-performance factor (NPF) in its calculation.

## Stakeholder Feedback

In feedback submitted to the IESO on May 3, 2022, stakeholders suggested that the proposed Standby Availability Charge does not incent the right behavior of encouraging availability during times of system need and doesn't take into account the unique participation framework of HDR resources.

Stakeholders suggested that the IESO revise the proposed Standby Availability Charge to mirror the existing Availability Charge. So in essence, HDR resources would be subject to 2x the applicable availability charges when placed on standby during the obligation period.

Stakeholders have also raised concerns regarding the increased frequency of Standby Notifications recently due to higher-than-normal pre-dispatch prices. The result is that they will be subject to the Standby Availability Charge more often. The IESO has committed to reviewing the standby trigger threshold, as part of the 2023 Capacity Auction enhancements engagement.

## Discussion Questions

As part of this technical session, IESO is requesting an open dialogue on the capacity qualification process for the HDR resources, including deliberation on whether or not the Standby Availability Charge is an appropriate mechanism to incent HDR resources to self-qualify.

- Do stakeholders support the need to account for lack of 'availability de-rate' factor in the qualification of an HDR, through a mechanism (for example, charges) that incentivizes an HDR resource to 'self-derate'?
- Does the alternative proposal of a Standby Availability charge of 2x Availability payment appropriately incentivize an HDR resource to only offer capacity into the auction that it can reliably make available in the energy market? What other mechanisms could IESO explore to appropriately de-rate HDR resources in absence of real-time availability data?
- Would stakeholders be supportive of the IESO proposed Standby Availability Charge if the price threshold that triggers a Standby Notification were revised to reflect market conditions? Are there particular aspects of the proposed Standby Availability Charge (i.e. magnitude of multiplier, applicable months, or frequency cap) that need further discussion?