
NOVEMBER 22, 2023

2023 Performance Results and Future Enhancements to the Capacity Auction

Today's Discussion

- Share performance results and key observations from the summer
- IESO responses to stakeholder feedback related to:
 - Objective Statement
 - Potential Enhancements
- Ensuring there is sufficient information to evaluate potential enhancements moving forward

Agenda

- General Session (30 min.)
 - Overview of Performance Results – Summer 2023 Activations
 - Stakeholder Feedback on Objective Statement and Suggested Enhancements
 - Summary and Next Steps
- Technical Session (90 min.)
 - Review and Discussion of Suggested Capacity Auction Enhancements



Performance Results: Summer 2023 Capacity Test Activations

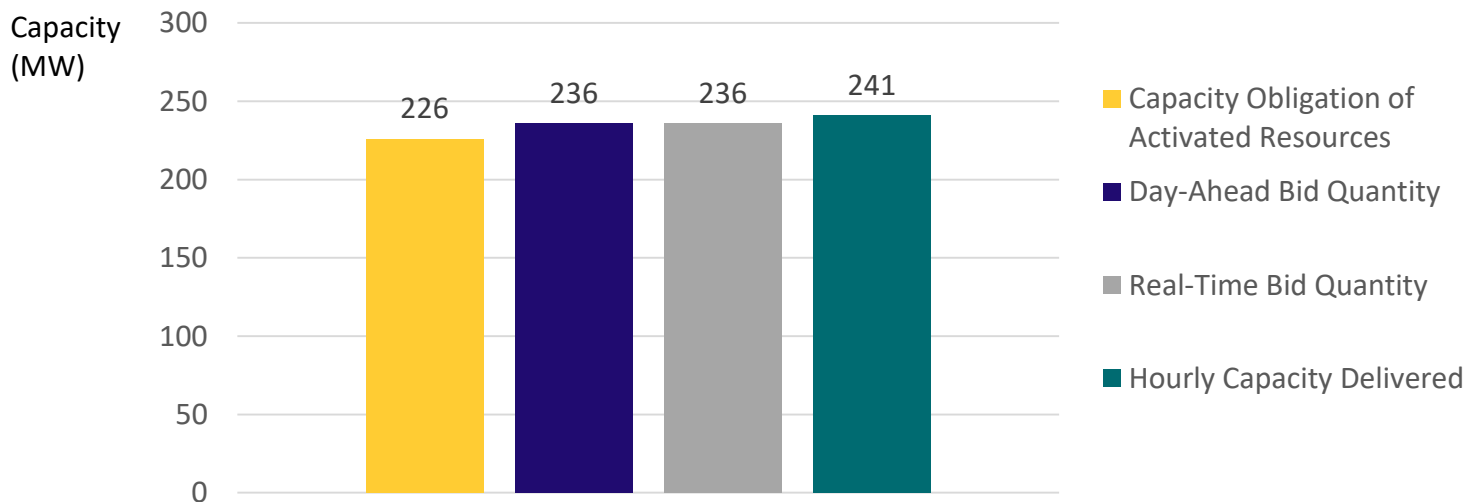
Capacity Auction Testing – Generators, Loads and Storage Results

- The first Capacity Auction test for the Summer 2023 obligation period was conducted for Dispatchable Generators, Loads and Storage resources on June 30, 2023
- Key observations:
 - Dispatchable Generators performed well during testing
 - Testing info for Dispatchable Loads and Storage resources was insufficient
 - The IESO will follow up with some of these participants

Dispatchable Generation - Test Results

For every 100 MW of Dispatchable Generation capacity acquired, **100 MW** are actually delivered in Real-Time (RT)

Dispatchable Generation - Performance Overview

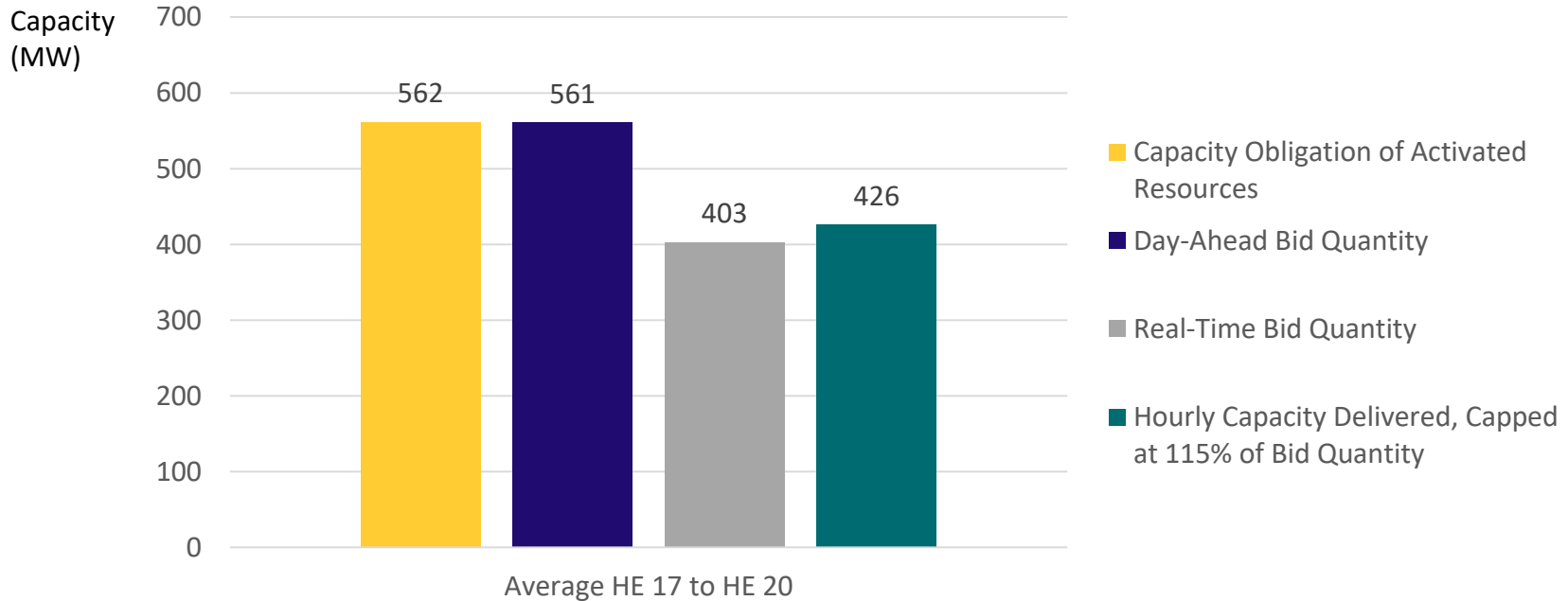



Capacity Auction Testing – HDR-Specific Results

- HDR resources were tested June 29, 2023
- Key Observations:
 - In aggregate, participants delivered ~75% of their MW obligation
 - 52% of HDR resources passed the test
 - 48% of HDR resources failed the test
 - A handful of HDR resources over-delivered in load reduction compared to bid quantity

Capacity Auction Testing – HDR-Specific Test Results

Results of Hourly Demand Response Resource Test for June 29, 2023





Performance Results: Summer 2023 Emergency Activations

Summary of Summer Emergency Activations

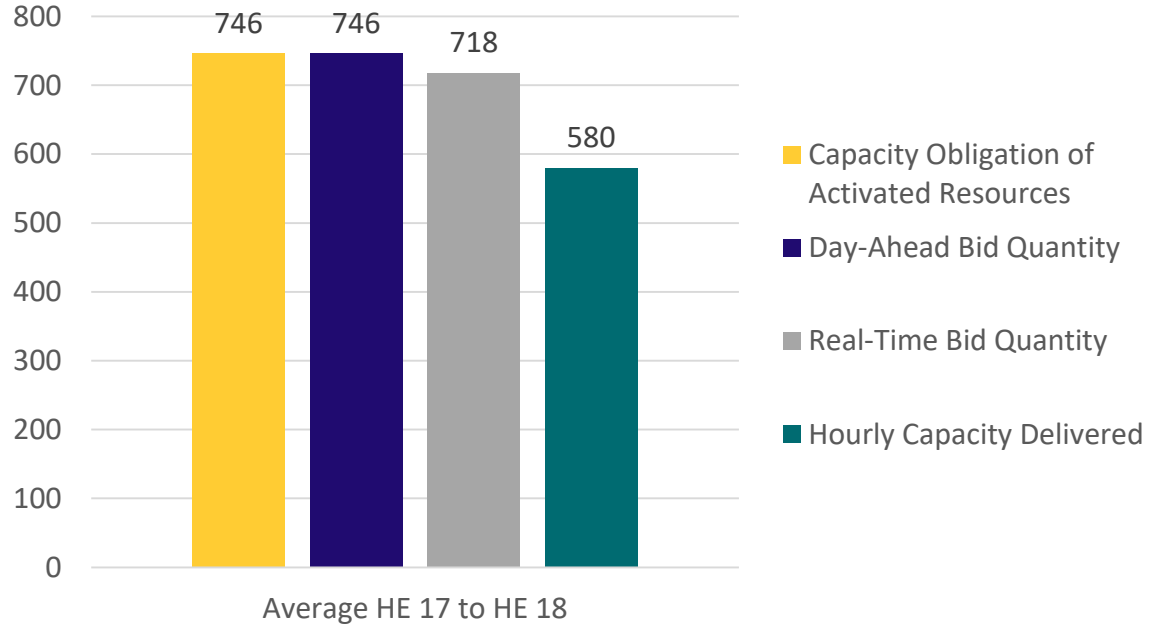
- After an EEA-1 was issued by the IESO on July 27, September 6, and September 7, 2023, capacity auction resources were called upon to provide energy to help maintain reliability
 - ~770 MW of HDR capacity was activated for each event
 - On average, HDR resources delivered 70-75% of expected capacity in real-time
- A significant portion of dispatchable resource capacity acquired through the Capacity Auction was not available during the EEA-1 events

July 27 Emergency HDR Activation – Results

Results of Hourly Demand Response Activation, July 27, 2023

Capacity
(MW)

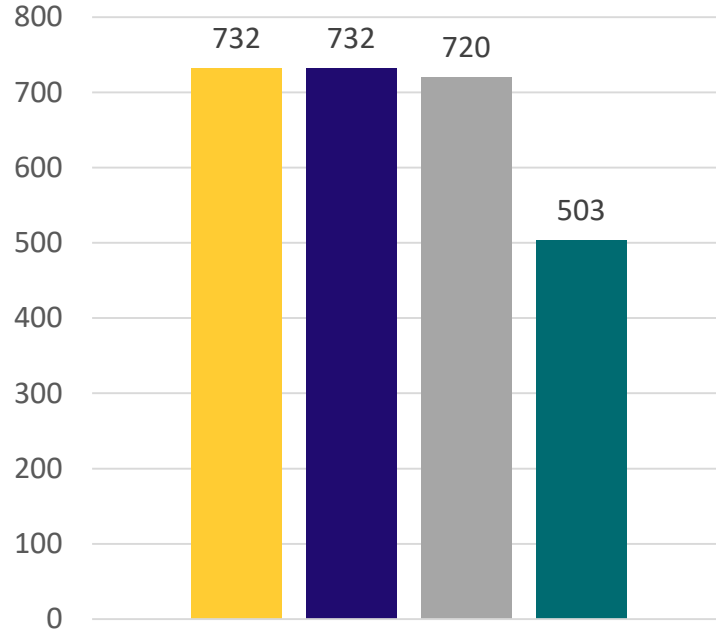
For every 100 MW of HDR capacity acquired, **78 MW** was delivered in RT



September 6 Emergency HDR Activation – Results

Results of Hourly Demand Response Activation, Sept. 6, 2023

Capacity
(MW)



- Capacity Obligation of Activated Resources
- Day-Ahead Bid Quantity
- Real-Time Bid Quantity
- Hourly Capacity Delivered

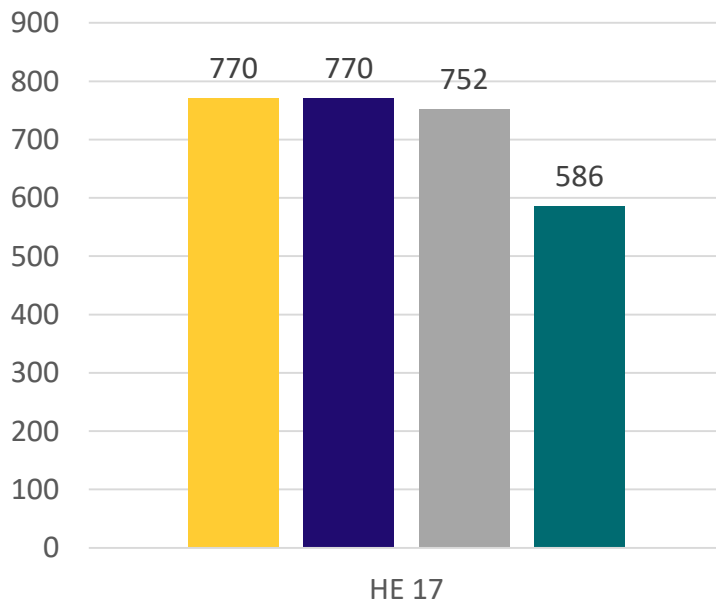
For every 100 MW of HDR capacity acquired, **69 MW** was delivered in RT

Average HE 15 to HE 18

September 7 Emergency HDR Activation – Results

Results of Hourly Demand Response Activation, Sept. 7, 2023

Capacity
(MW)



For every 100 MW of HDR capacity acquired, **76 MW** was delivered in RT

- Capacity Obligation of Activated Resources
- Day-Ahead Bid Quantity
- Real-Time Bid Quantity
- Hourly Capacity Delivered

Implications of Summer Emergency Activations

- As Ontario continues to operate in a period of tighter supply conditions, Ontario may be forced to rely on emergency operating procedures to maintain grid reliability, including HDR Activations
- Performance and availability of Capacity Auction resources are critical to ensure reliability is maintained during these events
- IESO will continue to monitor performance going forward, including when the new testing and performance assessment framework take effect in May 2024
- Meetings will be scheduled with participants to discuss how performance can be improved



September Stakeholder Feedback

September Stakeholder Feedback

- Stakeholders support the Capacity Auction objective statement and generally agree that it reflects the value that the Capacity Auction contributes to the [Resource Adequacy Framework](#) and IESO-Administered markets
- The IESO will proceed with using this objective statement:
"Future Capacity Auction enhancements should help ensure the Capacity Auction can adapt to evolving market conditions and continue to be a competitive, transparent and accessible marketplace for a diverse range of capacity resources"

September Stakeholder Feedback (2)

- Feedback on enhancements suggested by stakeholders
 - Feedback received for 14 of 16 enhancements
 - In particular, the enhancements “Review of audit process” and “Evaluate the benefits of enabling monthly buyouts” received detailed feedback
- A suggested enhancement that moves forward is one with sufficient rationale, potential value and information to support further investigation and implementation

September Stakeholder Feedback (3)

- Five of the 16 enhancements will be discussed in the Demand-Side Vision (DSV) engagement:
 1. Review of HDR measurement data audit parameters/process [A]
 2. Benefits of enabling a weather-sensitive resource class and/or moving to four seasonal obligation periods to more accurately value HVAC load contributions [G]
 3. Additional review of in-day adjustment factor in baseline methodology [J]
 4. Various suggestions that increase scope of contributor management process [O]
 5. Review of HDR standby trigger process [P]

September Stakeholder Feedback (4)

- Unless additional information is provided, the following enhancements will not be further investigated:
 1. Review of 4-hour duration requirement for energy storage capacity qualification methodology [F]
 - Storage capacity is assessed based on a 4-hour duration to reflect the maximum duration of capacity auction activations
 2. Reduce minimum resource requirement to less than 1 MW [K]
 - This topic is being discussed as part of the Enabling Resources Program and is therefore out of scope for Capacity Auction Enhancements

September Stakeholder Feedback (5)

- The IESO has no further questions on the following enhancements at this time:
 1. Update reference resource/price in CA Demand Curve [B]
 2. Understanding import and virtual zonal limits [C]
 3. Enable monthly buy-outs [E]
 4. Introduce performance-based incentives [L]
 5. Resource-specific EFORd for storage resources [M]



Summary and Next Steps

Summary

- Availability and performance is critical during emergency events
 - A significant portion of Capacity Auction resources was not available for activation during the July and September EEA-1 events
- IESO to follow up with some capacity test participants
 - Dispatchable Generators performed well
 - Testing info for Dispatchable Loads and Storage resources was insufficient
 - In aggregate, HDR participants delivered ~75% of their MW obligation
- Feedback on enhancements received and is being evaluated
 - Sufficient information is required for an enhancement to be investigated further
 - DSV will manage some suggested enhancements moving forward

Next Steps

- Feedback due by Dec. 8, 2023, on the following items:
 - Summer 2023 performance results from activations
 - Potential enhancements
- January 2024 Engagement session
 - IESO to present prioritized list of enhancements and additional details for stakeholder input



Technical Session

Technical Session – Today's Approach

- For each potential Capacity Auction enhancement, IESO will:
 - Summarize concept of enhancement
 - Identify missing information needed to properly assess the enhancement
- Feedback is encouraged
 - During the session, or
 - After session via phone, virtual meeting or e-mail

Technical Session – Introduction

- Through dialogue with stakeholders, the IESO hopes to better understand which potential enhancements are ideal candidates for further investigation and are more likely to receive supporting IESO resources
- Discussion Brief 1.0 - Potential Enhancements and Required Resources provides stakeholders with additional information regarding the resources required to pursue each potential enhancement

Questions: D) Capacity Auction Testing

- How are the costs of responding to dispatch tests worked into your auction offers?
- Would costs savings on testing directly lead to lower offer prices?
- What other mechanisms could ensure compliance with IESO dispatch instructions?

Questions: H) More Flexibility to Manage Commitments

- Is there any additional information that the IESO can provide to help facilitate bi-lateral transfers?
- Can participants provide more details on their typical timelines for firming up obligation amounts, whether it be in the forward period or during the obligation period, if it were allowed?

Questions: I) Multiple HDR Resources per Zone (1 of 2)

- How would aggregators segment contributors if multiple HDR resources in one zone were enabled?
- Would aggregators segment their contributors based on the following:
 - Contributor size
 - Curtailment method (e.g. load displacement via behind-the-meter generation and/or storage, load curtailment, other)
 - Performance
 - Load type (e.g. HVAC, industrial processes, etc.)
 - Other

Questions: I) Multiple HDR Resources per Zone (2 of 2)

- How would this improve resource performance and reliability?
- Why are inaccuracies introduced when different types/sizes of resources are combined under one resource?

Questions: N) Avoided Line Losses Credit in Demand Response Capacity Qualification

- What is the rationale for including an avoided line loss factor in capacity qualification if they are only achieved when demand response is activated?

Thank You

ieso.ca

1.888.448.7777

customer.relations@ieso.ca

engagement@ieso.ca



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