AUGUST 25, 2022

2023 Capacity Auction Enhancements

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Objectives

1. Seek stakeholder feedback on the draft 2023 Capacity Auction Enhancements engagement plan

2. Review the implementation timeline for the 2023 Capacity Auction enhancements

3. Introduce the nine design topics in scope for the 2023 Capacity Auction Enhancements engagement

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Engagement Plan

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Engagement Plan – Key highlights

- The engagement approach to facilitate the 2023 Capacity Auction enhancements are included in the draft Engagement Plan
- The scope of this engagement initiative is defined by nine topic areas (identified in this presentation)
- The goal of this engagement will be to seek specific feedback from interested participants on the topic areas in scope to facilitate enhancements for the 2023 Capacity Auction. The approach will include General Sessions along with more detailed Technical Sessions, as required.

Engagement Materials

For General Sessions, the IESO will utilize **'Design Memos'**

- Design Memos will capture the appropriate level of detail required to draft market rules and manuals as well as organize details for each topic to inform stakeholder feedback

For Technical sessions, the IESO will prepare **'Discussion Briefs'**

- Discussion Briefs will help facilitate detailed discussions at these sessions with the materials taken as read

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Engagement Materials

Draft Market Rules & Market Manuals:

- The IESO will present draft market rules and manual amendments to stakeholders in batches (3) to ensure topics that have been engaged on are presented in a manageable manner at appropriate times throughout the engagement

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Engagement Materials & Timelines – 1/2

Topic	Engagement Presentations	Discussion Brief (Technical sessions)	Design Memo (Engagement sessions)	Draft Market Rules/ Manuals
1. Qualification – Non-HDR	-	-	Final draft: Aug. 25 SE	Batch 1: Oct SE
2. Performance Assessments – Charges / True-ups	-	-	Final draft: Aug. 25 SE	
3. Performance Assessments – Testing Framework	-	-	Final draft: Aug. 25 SE	
4. Standby Trigger Review	Intro: Aug. 25 SE	-	Final draft: Sept. 22 SE	Batch 2: Nov SE*
5. Qualification – HDR/Standby Charge	Intro: Aug. 25 SE Update: Sept 22 SE	v1 - Aug. 26 v2 - Sept 22	Final draft: Oct. 24 SE	
6. Performance Assessments – HDR Thresholds	Intro: Aug. 25 SE Update: Sept 22 SE	v1 - Aug. 26 v2 - Sept 22	Final draft: Oct. 24 SE	

* Standby Trigger Review may require updates to the Market Manual only, and as such can be baselined for the upcoming 2022 Capacity Auction, which secures capacity for 2023 Summer and 2023/24 Winter; subject to engagement completing in a timely manner.

Engagement Materials & Timelines – 2/2

Topic	Engagement Presentations	Discussion Brief (Technical sessions)	Design Memo (Engagement sessions)	Draft Market Rules/ Manuals
7. Demand Curve Review	Intro: Aug. 25 SE Details: Oct. 24 SE	-	Draft 1: Oct. 24 SE Final draft: Nov. 22 SE	Batch 3: Dec SE
8. FCA – Procurement Design	Details: Aug. 25 SE; Sept. 22 SE; Oct. 24 SE	-	Draft 1: Sept. 22 SE Draft 2: Oct. 24 SE Final draft: Nov. 22 SE	
9. Audit	TBD**	-	TBD**	TBD**

**To be determined, once scope of audit enhancements critical for the 2023 Capacity Auction enhancements have been identified.

Timelines

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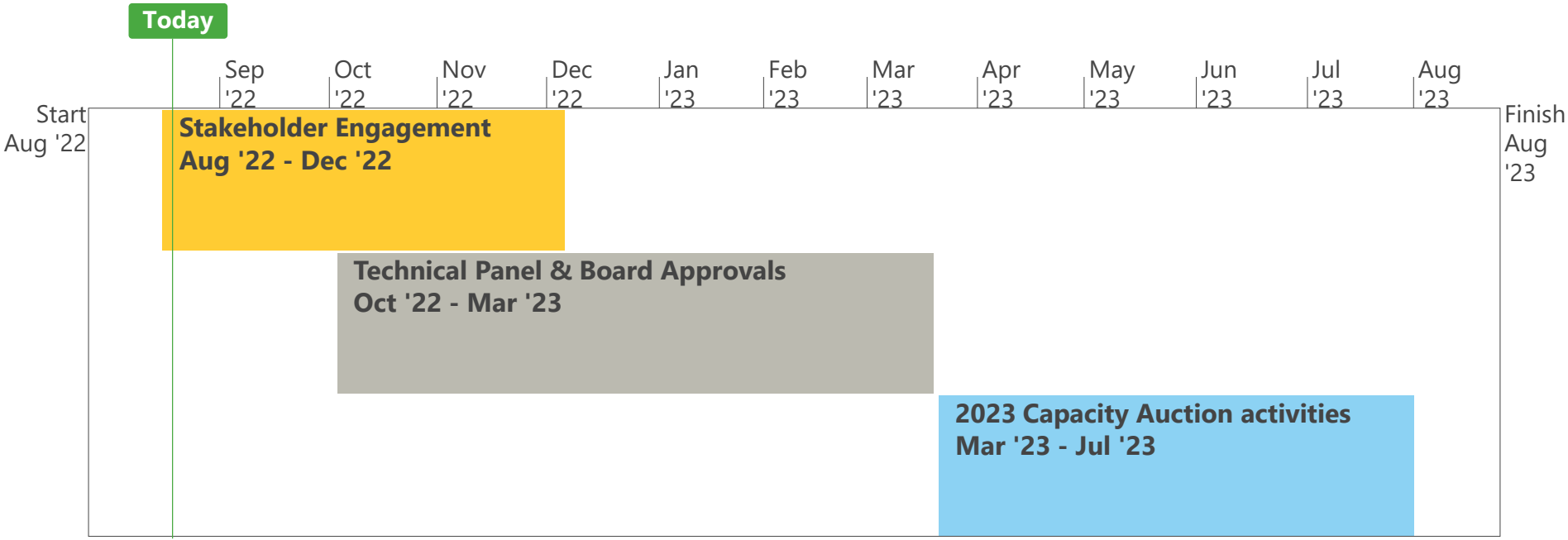
Implementation Timelines – High-Level



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Implementation Timelines - Details

	Activity	Tentative Dates
Engagements	General Session - 1	August 25, 2022
	Technical Session - 1	August 26, 2022
	General Session - 2	September 2022
	Technical Session - 2	September 2022
	General Session - 3	October 2022
	Technical Session - 3	October 2022
	General Session - 4	November 2022
	Technical Session - 4	November 2022
	General Session - 5	December 2022
Technical Panel & Board Approvals	TP - Status Update	October 11, 2022
	TP - Education	December 13, 2022
	TP - Vote to Post	January 10, 2023
	TP Vote to Recommend	March 8, 2023
	Board Approval (MR)	March 8, 2023
	OEB Review Period	March 8, 2023 - March 27, 2023
	Market Rule Effective	March 27, 2023
2023 Capacity Auction	Pre-Auction Report Posted (TBD)	April 20, 2023
	Capacity Qualification Window	April 20, 2023 - June 20, 2023
	Auction Window	July, 3, 2023 - July 4, 2023
	Post-Auction Reports Posted	July 11, 2023

Engagement Topics

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1.0 – Qualification: Non-HDR Resources

Engagement Status: Complete

Overview: Captures enhancements to capacity qualification for all capacity auction resources except outstanding issues specific to Hourly Demand Response (HDR) resources

- Outlines the capacity qualification methodology used to derive the UCAP value that a resource can offer into the capacity auction, generalized as follows:

UCAP (MW) = ICAP (MW) x Availability De-Rating Factor x (1 – Performance Adjustment Factor)

Further Details: Design Memo 1.0 - Capacity Qualification (Non-HDR)

2.0 – Performance Assessment: Testing Framework

Engagement Status: Complete

Overview: Captures enhancements to the capacity auction testing framework

- All capacity resources will be tested to their installed capacity and will be able to self-schedule for a Capacity Test within an IESO-determined test window
- Capacity auction resources may also be subject to a Dispatch Test to demonstrate their ability to follow dispatch instructions

Further Details: Design Memo 2.0 - Testing Framework

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3.0 – Performance Assessment: Charges/True-ups

Engagement Status: Complete

Overview: Captures enhancements to the auction penalties and payments framework

- True-up availability payments, which align performance assessments with the UCAP based capacity qualification
- Adjusts capacity charges such that test performance is assessed against capacity auction obligations rather than energy market bids for all auction resource types
- True-ups to ensure total charges do not exceed total payments in an obligation period

Further Details: Design Memo 3.0 – Charges & True-ups

4.0 – HDR Standby Trigger Review

Engagement Status: In Progress

Overview: Higher pre-dispatch shadow prices are triggering the $100/MWh HDR standby notification more frequently, which is impacting HDR resources that need to take pre-emptive actions to prepare for a potential activation

Background: The current $100 price threshold was determined based on 2014 to 2017 data, and set to align with times of system need and ensure HDR is available to compete with other peaking resources. Market prices during this time period were consistently lower, and the $100 threshold was much less common.

4.0 – HDR Standby Trigger Review (cont'd)

Scope: Undertake a review and update to the HDR standby price trigger threshold ahead of the 2022 capacity auction, regardless of the outcome of the HDR qualification engagement topic (i.e., Standby Availability Charge proposal)

Considerations: Given the tight timeline, the scope of this review will be limited to revising the threshold price and potential Market Manual amendments will be implemented through the IMDC process. Any future changes will be determined at a later date and stakeholders will be engaged accordingly.

Feedback Requested: Do stakeholders support the proposed scope? Are there any other considerations that the IESO needs to be aware of?

5.0 – Qualification: HDR Resources (Standby Charge)

Engagement Status: In Progress

Overview: A capacity qualification process is required for all resources participating in the capacity auction, including an availability de-rate. This enhancement aligns with the Market Surveillance Panel recommendation to link the qualified capacity process with the resources' expected availability to be able to deliver capacity when dispatched.

For Discussion – August 26 Technical Session: Identify outstanding issues and/or alternative proposals to the standby availability charge for HDR resource qualification that is commensurate with the availability de-rate for a dispatchable load resource

Further Details: Discussion Brief – HDR Qualification

6.0 – Performance Assessment: HDR Thresholds

Engagement Status: In Progress

Overview: Better align performance thresholds across resource types by adjusting the capacity test threshold for HDR resources from 80% to 90% of delivered ICAP

- Concerns remain regarding the impact of contributor outages and the in-day adjustment on the HDR baseline, and subsequently on assessed performance and settlement

For Discussion – August 26 Technical Session: Proposal to remove the meter data of the contributor on force outage from the baseline calculation; conclude discussion on the 2020 HDR Baseline Methodology Review

Further Details: Discussion Brief – HDR Performance Thresholds

7.0 – Demand Curve Review

Engagement Status: In Progress

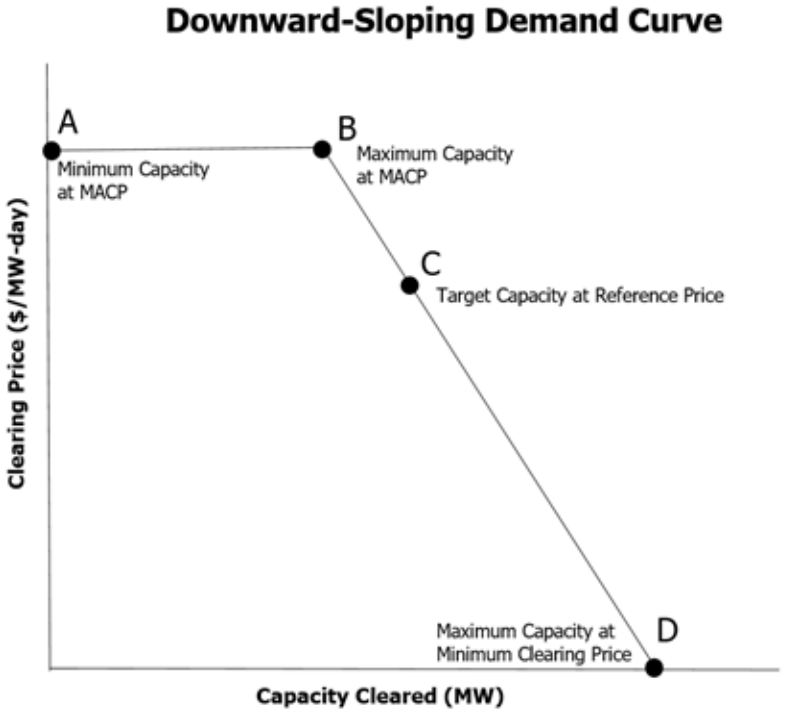
Overview: The existing demand curve was established in 2015 to support the competitive procurement of demand response capacity. The demand curve Reference Price parameter was reviewed in 2020, but no parameters have been updated since the initial design.

Since 2015, the auction mechanism has evolved to:

- Capture a broader set of resource types
- Qualify resource based on unforced capacity (UCAP) basis
- Operate in coordination with medium- and long-term procurement mechanisms

7.0 – Demand Curve Review (cont'd)

- The demand curve should signal to investors the price IESO is willing to pay for varying levels of capacity along the curve.
- The shape of the curve impacts the quantity (MW) and price ($/MW-day) of capacity that is acquired through the auction.



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7.0 – Demand Curve Review (cont'd)

Objectives: The primary objective of the demand curve review is to update the demand curve parameters such that, to the extent possible, the auction remains a cost-effective, reliable, and robust procurement mechanism within the Resource Adequacy Framework.

The review will ensure demand curve updates support the following auction outcomes:

- Procures sufficient capacity to meet incremental resource adequacy needs
- Attracts investment from suppliers within Ontario and from neighbouring jurisdictions
- Avoids excessive capacity price volatility to support a stable investment signal

7.0 – Demand Curve Review (cont'd)

Scope: The demand curve review will focus on the two price parameters (Reference Price, Maximum Auction Clearing Price) and assess the degree to which these parameters should be revised for the 2023 capacity auction to reflect the evolving purpose of the auction and emerging resource adequacy needs.

IESO will leverage the Brattle Group to develop options for parameter updates, which will be published in a discussion brief for discussion and feedback in October.

Feedback Requested:

- Do stakeholders support the proposed scope of the demand curve review?
- Are there other aspects of the demand curve that should be addressed in the review?

8.0 – Forward Capacity Auction (FCA) Design

Engagement Status: In Progress

Overview: IESO is proposing a Forward Capacity Auction (FCA) to secure capacity further in advance of when capacity needs are forecast to appear.

IESO plans to continue engaging with stakeholders on the following design elements at today's session :

- FCA commitment length – 3-year vs. one-year commitments
- Auction timing – FCA & ACA

These topics were introduced at the July 21, 2022 meeting, but feedback received from stakeholders indicates more clarity on the proposals is needed, as well as further elaboration from stakeholders on the feedback submitted would help the IESO better understand the underlying concerns.

8.0 – FCA Design (cont'd)

IESO plans to engage on the following design elements at future sessions:

- Target Capacity (FCA vs. balancing ACA)
- Performance Assessment Framework
- Eligibility of new build storage
- Dual participation in the FCA and ACA
- Deposit and prudential support requirements
- Buy-out provisions

IESO is proposing to leverage key ACA enhancements that are targeted for implementation ahead of the 2023 ACA for the FCA design, including:

- Capacity Qualification
- Capacity Testing

IESO acknowledges that further engagement is to be had on how the ACA framework (Market Rules, Manuals, and IT tools) would apply in the FCA context

8.0 – FCA Design: Re-cap and Feedback

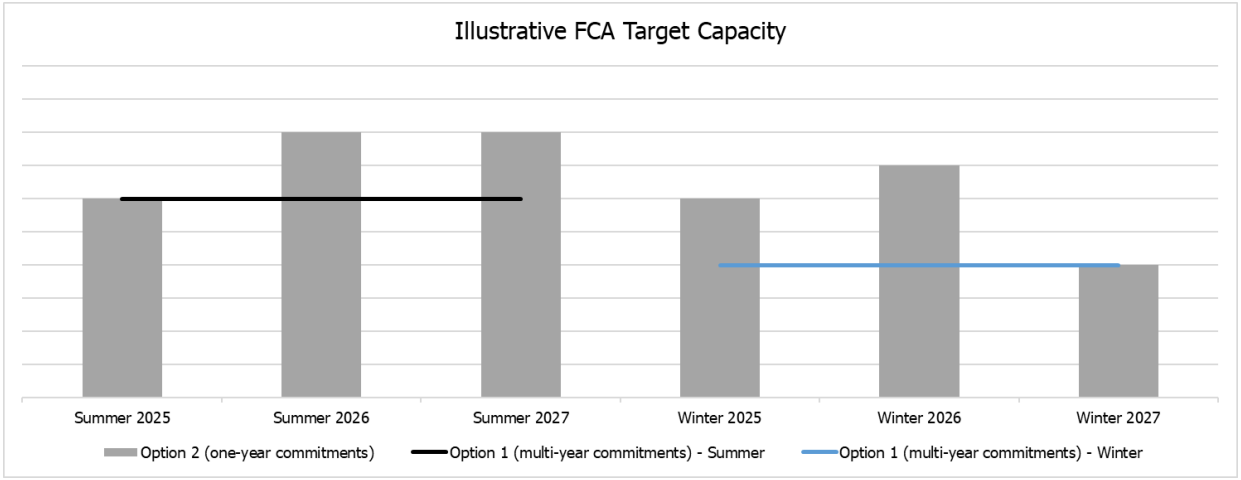
Engagement	June 9, 2022	July 21, 2022
Design Proposal	• Run a single FCA in late 2023 • One 3-year commitment, starting May 2025 • Summer obligation, winter obligation • Contract-based (outside Market Rules and Market Manuals) • Subsequent/linked ACA held for each commitment period the FCA procures for	• Run three sequential FCAs in summer 2023 • 3 one-year commitments, starting May 2025 • Summer obligations, winter obligations • Not contract-based (leverages Market Rules and Market Manuals) • Subsequent/linked ACA held for each commitment period the FCAs procure for
Stakeholder Feedback	• Limited feedback received • Suggestions that the longer forward period design aspect of the FCA is more important than a multi-year commitment • Contract length too short for variable generation or co-located hybrid facilities	• Lack of support for one-year commitments • Risk a resource may not clear all 3 auctions • A multi-year commitment is preferred due to increased investment certainty • Too much uncertainty associated with 3+ year forward period (between 2023 auction and a 2027/2028 obligation)

8.0 - FCA Design: Commitment Length

Option	Pros	Cons
Option 1: A single auction with one 3-year commitment (Multi-year Commitment)	• More revenue certainty over longer timeframe (3-years vs one-year) • Better aligns with term-length of other IESO procurement mechanisms	• Less flexibility regarding target capacity setting and auction offers year-to-year • New build storage likely not feasible due to relatively short forward period • More complex IT/tool changes required • More comprehensive Market Rule/Market Manual changes required
Option 2: 3 sequential auctions, each for a one-year commitment	• Flexibility in offer volumes each year • Longer forward periods for later commitment periods (potential for new build storage to participate) • Leverages existing IT/tool infrastructure • Simpler implementation due to ability to leverage ACA framework/IT systems	• More uncertainty associated with very long forward periods for some resource types • Risk resources may not clear all three auctions (though risk considered low based on identified adequacy needs)

8.0 – FCA Design: Commitment Length (cont'd)

The Target Capacity will likely differ depending on whether a multi-year commitment (Option 1) or one-year commitments (Option 2) are chosen for the FCA. There is increased flexibility associated with running three auctions with one-year commitments.



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8.0 – FCA Design: Commitment Length (cont'd)

Feedback Requested:

- Based on the clarifications regarding the intent, design, and pros and cons of the commitment length options presented, do stakeholders continue to support a single auction for a multi-year commitment for the FCA?

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8.0 – FCA Design: Auction Timing

At the July 21, 2022 engagement session, IESO proposed changing the timing of the annual capacity auction. The auction is typically held in December each year, but under the new timing, it would be moved up by four months to take place in the summer months. IESO has also proposed to hold the FCA auction(s) in the summer of 2023.

- The two main drivers for this auction timing proposal are:
  1. Provide auction participants with longer forward periods
  2. Better align with yearly publication of the Annual Planning Outlook and/or the Annual Acquisition Report.

8.0 – FCA Design: Auction Timing – Feedback

IESO would also like to clarify the auction timing proposal specifically as it relates to the FCA and the 2023 ACA following stakeholder feedback regarding concern over the sequencing of these auctions and associated commitment periods.

Auction Executed	Auction Type – Commitment Period
Summer 2023	ACA – 2024/2025 FCA – 2025/2026; 2026/2027; 2027/2028
Summer 2024	ACA – 2025/2026*
Summer 2025	ACA – 2026/2027
Summer 2026	ACA – 2027/2028

*The ACA for the 2025/2026 commitment period would be held in Summer 2024, a full year after the FCA is run and FCA commitments for 2025/2026 are known to participants. The same goes for subsequent ACAs.

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8.0 – FCA Design: Auction Timing – Feedback

Feedback from stakeholders following the July session suggests that running the ACA and/or FCA during the summer months, would significantly increase risks to participants.

The IESO is requesting further elaboration from stakeholders on the specific risks or limiting factors associated with holding a capacity auction (FCA and/or ACA) earlier in the year during the summer months.

Next Steps

August 26 - Technical Session on:

- Qualification - HDR/Standby Charge
- Performance Assessments - HDR Thresholds

September 9, 2022 - Feedback requested on:

- Draft Engagement Plan, Topic Areas and overall approach
- August 26 Technical Session - Discussion Briefs

Please contact engagement@ieso.ca for any questions related to this initiative