AUGUST 10, 2022

LT1 RFP, Expedited Process and Same-Technology Upgrades Update



Agenda

- Expedited Process and LT1 RFP Linkages
- Recap LT1 RFQ and Other Updates
- RFP Design Key Updates
- Contract Design
- Same Technology Upgrades Status Update
- Deliverability Testing
- Next Steps



Purpose

- Provide context on the linkages between the Expedited Process, LT1 RFP, and Same Technology Upgrades Procurements
- Present key updates to Expedited/LT1 RFP and Contract design
- Provide a status update on the Same Technology Upgrades Procurement
- Provide updates on the Deliverability Testing process



Expedited Process and LT1 RFP – Linkages (1)

- Some stakeholders have expressed a desire to better understand the linkages between the Expedited Process and LT1 RFP, along with the rationale for running two separate procurements
- The two processes provide the IESO and proponents with greater procurement flexibility and optionality for proponents
- The Expedited Process will serve as the first opportunity for proponents to propose projects that are at a more advanced stage and hence proponents should have greater confidence that they are able to achieve commercial operation as early as May 1, 2025.
- The Expedited process will provide a strong incentive for early operation through additional revenues, while requesting that proponents provide increased Proposal Security



Expedited Process and LT1 RFP – Linkages (2)

- The LT1 RFP will lag the Expedited process and thereby provide the second procurement opportunity for those proponents who require more time to develop their projects and conduct meaningful consultation and are therefore not ready to commit to the earlier in-service date through an increased proposal security
- In addition, those who were unsuccessful in the Expedited Process will get another opportunity to submit their proposal(s)
- Having these cadenced processes in quick succession is the beginning of the IESO's Resource Adequacy framework – which aims to create investor certainty through cadenced procurements



Expedited Process and LT1 RFP – Linkages (3)

- Given emerging system needs, the IESO will also look to apply lessons learned from the Expedited Process into the LT1 RFP where applicable, in order to drive towards procurement outcomes best suited to meet system reliability needs
- Sequencing the procurements provides more opportunities to proponents while giving the IESO the desired flexibility to ensure reliability needs are met when the results of the Expedited Process are fed into the LT1 RFP
- Given timelines and upcoming milestones, the IESO will focus upcoming engagements on the Expedited Process documents while keeping stakeholders updated on any significant changes to the LT1 RFP



Recap – LT1 RFQ and Other Updates



Recap – LT1 RFQ Update

- The evaluation of Qualification Submissions is ongoing and the IESO is working to establish qualified applicants for both the LT1 RFP and the Expedited Process
- The IESO received submissions from more than 70 applicants who identified over 900 potential projects
- Based on this high volume of interest, the IESO requires additional time to conclude its RFQ evaluation beyond the originally indicated milestones



Indicative schedule – subject to change

Recap – Expedited Process, and Same Technology Upgrades Schedule

Expedited Process and Same Technology Procurement Milestones	Initial Date	Revised Date
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Expedited Process Qualified Applicants Announced	July 20, 2022	August 23, 2022
Draft Expedited and LT1 RFP/Contracts Posted	August 1, 2022	August 25, 2022
Expedited Process and Same Technology Upgrades Deliverability Assessment Submission	July 27, 2022	August 30, 2022
Final Expedited Process RFP Posted	October 1, 2022	November 1, 2022
Expedited Process and Same Technology Upgrades	September 23, 2022	November 30, 2022
Deliverability Test Results		(additional time required due to volume of Expedited Process applicants)
Expedited Process Proposal Submission	November 1, 2022	December 20, 2022
Expedited Process Contract Award	December 31, 2022	February 28, 2023



Recap – LT1 RFP Schedule

LT1 RFP Milestones	Initial Date	Revised Date
LT1 RFP Qualified Applicants Announced	August 15, 2022	August 23, 2022
Draft Expedited and LT1 RFP/Contracts Posted	August 1, 2022	August 25, 2022
LT1 RFP Deliverability Test Submission	October 1, 2022	January 4, 2023
Final LT1 RFP and Contract Posted	December 15, 2022	January 30, 2023
LT1 RFP Deliverability Test Results	December 29, 2022	[April 14, 2023] Additional time may be required depending on volume of applicants
LT1 RFP Proposal Submission	July 2023	[July 2023] Depending on volume and linkages with the E-LT1 RFP, this milestone may be advanced
LT1 RFP Contract Execution	October 2023	[October 2023] Date is dependent on volume of Proposal submission. IESO remains committed to expediency.



Recap – Proposed Support Resolutions

- The IESO continues to meet with municipalities and Indigenous communities to discuss upcoming procurement processes
- Most recently, the IESO held a more focused discussion on the proposed mandatory requirement to obtain a Municipal Council Support Resolutions under the LT1 RFP prior to proposal submission and post-contract award under the Expedited Process
- While there was some support for the concept, concerns were raised about the impacts on municipalities and linkages to their permitting processes



Recap – Proposed Support Resolutions

- The IESO proposes that Municipal Council Support Resolutions be treated as a rated criteria for both the Expedited Process and the LT1 RFP
 - Projects located "On-Reserve" will still need to attain an Indigenous Community / Band Council Support Resolution to satisfy mandatory requirements for both the Expedited Process and the LT1 RFP
- The IESO has received initial feedback from Indigenous communities and Municipalities on this proposed approach and welcomes additional feedback from sector participants / proponents
 - Feedback received from sector participants thus far has shown that there is support for this revised approach



Recap – LT1 RFP and Expedited Process Term Length

Procurement	Proposed Commercial Operation Date (COD)	Term and Incentive	Contract Term End
LT1 RFP	May 1, 2027	20 Years	April 30, 2047*
LT1 RFP	<may 1,="" 2027<="" td=""><td>20 Years + additional term for commercial operation any time prior to May 1, 2027</td><td>April 30, 2047*</td></may>	20 Years + additional term for commercial operation any time prior to May 1, 2027	April 30, 2047*
Expedited Process	May 1, 2025	22 Years + COD Payment Multiplier for 2025/2026	April 30, 2047*

*Contract term end will remain final. Any delays in achieving commercial operation will not result in modification to this date



Recap – Commercial Operation Date (COD)

- With the adjustment of schedules due to high interest in the LT1 RFQ, additional feedback reinforced that May 1, 2025 would be increasingly difficult to meet as the Expedited Process COD firm requirement
- Given that feedback and the IESO's commitment to ensuring that resources are able to come on-line as soon as possible, the IESO is proposing maintaining the term start (May 1, 2025) and end date (April 30, 2047), however, we will extend the COD multiplier until May 2026 providing resources an incentive to come into service as early as possible and not penalize those that miss May 1, 2025
- With the potential benefits offered to suppliers under this approach the IESO must maintain a reliability based focus on ensuring that resources achieve COD by May 2026, at the latest
- Those unable to meet the May 2026 COD may be subject to liquidated damages



RFP Design – Key Updates



LT1 RFP/Expedited Process – Rated Criteria

• The IESO proposes developing a scoring methodology for Rated Criteria that assigns points in the following manner:





Procurement Risk Lens

- Given the IESO's focus on meeting system needs and maintaining reliability, upcoming acquisition mechanisms (Expedited Process, LT1 RFP, Same-Technology Expansions) will need to be considered through a risk mitigation lens
- When applying that risk mitigation approach, the IESO is aiming to procure a diverse mix of resources (technologies, suppliers, locations, sizes) to avoid an "all eggs in one basket" approach
- There are a number of considerations that the IESO will apply in order to achieve this diverse mix of technologies and suppliers



Diversification

- The IESO is proposing the following measures to ensure diverse procurement results:
 - Maximum project size of 600 MW
 - Limitation of the amount of MW/projects awarded to a single supplier
 - Bifurcating the procurement target into one for battery storage, one for all other resources
- This approach will also dovetail with the IESO's proposed approach for a separate storage contract



LT1 RFP/Expedited Process – Rated Criteria





Contract Design



Contract Design (1)

- The feedback that the IESO has received has a common theme of wanting more resource-specific commercial structures
- However, the RFQ submissions reinforced the innovative and creative perspectives that developers have to help solve Ontario's capacity needs
- With the overwhelming interest in standalone storage, the IESO will introduce some more electricity storage resource specific considerations into the proposed capacity-based model
- For non-storage resources, the IESO will offer a capacity style contract in order to foster the innovative thinking reflected in the RFQ submissions



Contract Design (2)

- The contract for electricity storage resources will include a number of provisions that take into account specific commercial considerations faced by stand-alone storage resources including the treatment of regulatory charges, state of charge considerations and a revenue adjustment mechanism based on energy market spreads
 - The storage specific contract will leverage latest storage contracts
- For ALL other non-electricity storage resources, the IESO will be offering a capacity-style contract in order to foster the innovative thinking reflected in the RFQ submissions
 - Capacity-style contracts will leverage latest MTC I contract (i.e., must-offer obligations, non-performance etc.) and best other practices



Performance Obligations

- The Expedited and LT1 Contracts will require that suppliers be obligated to make their capacity available through offers into energy market
- The proposed contracts will be aligned with the post Market Renewal Program (MRP) market and will rely on those mechanisms, including the Day-Ahead-Market (DAM) to drive efficient outcomes
- Must-offer requirement where quantity of offers into the Day-Ahead Market during the availability window (i.e., 5x16 hours) would need to be greater than a percentage of the resource's contract capacity (i.e., 90%)
- The contract will include provisions for non-performance charges in a manner consistent with Market Rules, in instances where Suppliers are unable to meet certain must-offer obligations



Example of Non-Performance Charges

 The IESO proposes that if in any Settlement Month the average quantity of offers in the availability window is less than a predetermined percentage of the Contract Capacity, resources will incur the following charges:



Charges to be based on Market Rules

Month	Factor	<u>Month</u>	Factor
January	2.0	July	2.0
February	2.0	August	2.0
March	1.5	September	2.0
April	1.0	October	1.0
Мау	1.0	November	1.0
June	1.5	December	1.5



Expedited Process Contract Payment Multiplier

Commercial Operation Date	COD Payment Multiplier
Before May 1, 2025	[1.5]
May 1, 2025 – May 31, 2025	[1.5]
June 1, 2025 – June 30, 2025	[1.5]
July 1, 2025 – July 31, 2025	[1.5]
August 1, 2025 – August 31, 2025	[1.5]
September 1, 2025 – September 30, 2025	[1.3]
October 1, 2025 – October 31, 2025	[1.3]
November 1, 2025 – November 30, 2025	[1.3]
December 1, 2025 – December 31, 2025	[1.3]
January 1, 2026 – January 31, 2026	[1.1]
February 1, 2026 – February 28, 2026	[1.1]
March 1, 2026 – March 31, 2026	[1.1]
April 1, 2026 – April 30, 2026	[1.1]

- These are the proposed multipliers that will apply to the Fixed Capacity Payment for the period starting on the Commercial Operation Date as long as commercial operation is achieved before the Bonus End Date (May 1, 2026)
- The draft contracts will further describe the interplay between the multiplier, long stop date and liquidated damages.
- Note that the multiplier will not be included in Proposal Evaluation.



Proposal Security and Liquidated Damages

- Along with the additional revenue opportunities under offer for the Expedited Process, the IESO will impose liquidated damages for resources unable to meet milestone dates agreed to in the contract
- For clarity, even if the resource has not achieved commercial operation by the predetermined milestone date, the contract will still expire on the day before the relevant (i.e., 20 or 22 year) anniversary of that milestone date
- An additional longstop date beyond the milestone date will be included and failure to achieve commercial operation by this date may result in an event of default, which could result in a drawing of security



Overview of Proposed Contracts

Key Provision(s)	Capacity-Style Contract	Electricity Storage-Style Contract	
Product	Capacity (i.e., making their Contract Capacity a	vailable in pre-determined availability window)	
Performance Obligation	 Must-Offer Obligation into Day-Ahead Market Subject to Availability Non-Performance Charge 		
Payment	• \$/MW-Business Day		
Liquidated Damages	• Applied in instances where commercial operation date is not met by the Milestone Date - COD		
Indexing	Materials Cost Index Adjustment may be included		
Minimum Offer Quantity	Utilizes concept stakeholdered for the MTC I Contract	 Same but subject to a State-of-Charge Limitation 	
Revenue Adjustment Mechanism	• N/A	 Market Pricing Spread Adjustment for an Electricity Storage Facility 	
Regulatory Charges	• N/A	Regulatory charge credit (inc. GA)	



Spread Adjustment for Electricity Storage Facilities

- For energy storage resources operating in other jurisdictions, arbitrage revenue appears to be less than that from capacity and ancillary services
- Given lack of a diverse ancillary service market in Ontario and lack of clarity on post-MRP energy pricing, IESO has proposed an adjustment to capacity payments based on energy market spreads (i.e., arbitrage opportunities)
- The adjustment would be to a facility's capacity payment based on the average spread (low 4 hours vs. high 4) during a set period of time
- Should market prices be flat (i.e., low spread between low and high pricing) capacity payments would be eligible for a top-up, whereas in instances of high spreads, the supplier may have their capacity payment reduced



Spread Adjustment for an Electricity Storage Facility (2)

- Below is an illustrative example of how the spread adjustment mechanism can be applied in order to provide a hedge against some energy price uncertainty
- Note: the below example is illustrative and is subject to additional analysis by the IESO

Spread Scenario	Average Spread (\$/MWh)	Monthly Capacity Payment Adjustment (subject to maximum set by IESO)
Low	<\$10	+20% (value can be bid in by proponent)
Mean	>\$10 <\$50	N/A
High	>\$50	-10% (value can be bid in by proponent)



Spread Adjustment for an Electricity Storage Facility (3)

- Net of low volatility Monthly Capacity Payment Adjustment % vs. high volatility Monthly Capacity Payment Adjustment % would be applied to the Proposal Price (should proponents choose to bid it), in order to allow for an "apples to apples" comparison between electricity storage resources
 - \circ (+20%) + (-10%) = +10% increase to Proposal Price for purposes of evaluation
 - Paired with the bifurcated procurement approach the IESO can employ this simplified evaluation, thus ensuring that the rapid pace for the procurement is maintained
- IESO is looking to set the maximum bid % in order to provide proponents with the appropriate protection in case of low volatility, while retaining the focus on a capacity product and payment
- The spread adjustment described here allows for a more simplified approach to contract management and implementation



Regulatory Charge Credit for Electricity Storage

- The IESO proposes that electricity storage facilities be eligible for a regulatory charge credit (including a reimbursement for Global Adjustment (GA))
- The credit will be based on the sum of all regulatory energy charges incurred by the supplier in respect of withdrawn electricity plus the GA reimbursement
- The reimbursement will be equal to the amount of GA incurred by the supplier, subject to participation in the ICI program or subsequent replacement program.
- The reimbursement would not include any GA the supplier would have avoided had the Facility not been drawing power from the IESO-Controlled Grid during any peak demand periods.
- GA reimbursement may be related to min. round trip efficiency



Environmental Attributes

- The IESO is continuing to work on the design of the Clean Energy Credit registry and report to the government on the design and implementation of that registry and market
- As that work progresses the IESO will aim to update stakeholders on the impacts for the LT1 Contract and Expedited Contract, as it pertains to the treatment of environmental attributes and their revenues
- The treatment of environmental attributes will apply to both the Expedited and LT1 Contracts
- The IESO is finalizing its approach and will communicate the approach in the draft contract



Indexing

- The IESO continues to review stakeholder feedback from the July 21 webinar, including extensive feedback on the topic of contract indexing
- Early feedback has been mixed, with a wide range of preferred approaches identified; from those proponents who believe that commodity pricing and inflationary risk should be managed by proponents themselves, to those who see indexing to commodity market prices, industrial indices and inflation as being applicable for a limited period of time (i.e., proposal submission or contract award to COD) to those who wish to see broad based indexing during the life of the contract
- The IESO believes that some indexing is warranted but given this wide range of feedback and rapidly changing macroeconomic conditions, the IESO will develop an approach that maintains an equal playing field for all resources



Same Technology Upgrades – Status Update



Context and Overview

 Subsequent slides outline some refinements and further considerations for approaches to procure cost-effective upgrades at existing contracted facilities



Recap: Optimizing Existing Contracted Assets

- The Same Technology Upgrades procurement is intended to provide a streamlined processes to incent new cost-effective capacity upgrades from existing contracted assets.
- Optimizing capacity from existing facilities is an important component of the IESO's strategy to support an adequate, cost-effective and reliable supply and meet emerging needs.
- This procurement will look to acquire capacity with specific characteristics to support resource adequacy needs.



Same-Technology Upgrades and Expansions

- Based on stakeholder feedback and further internal discussion, the IESO will focus on Upgrades to existing facilities and as such there will be a procurement call for Same Technology Upgrades. These upgrades will be eligible to participate in the initiative to bid new incremental capacity to their existing contract
- **Expansions** at existing contracted facilities will be eligible to participate in the Expedited Process or LT1 RFP (as applicable) but will be exempt from the requirement to become a qualified applicant
- Both Upgrade and Expansion projects will still be required to participate in the Deliverability Testing process



Upgrades and Expansions at Existing Facilities



Connecting Today. Powering Tomorrow.

Eligibility Requirements

Have an existing contract in good standing and must participate in Deliverability Assessment Must increase the Maximum Generator Resource Active Power Capability of the Facility by at least

- 10%; or
- 10 MW (for a facility greater than 100 MW); or
- 1 MW (for a facility less than 10 MW)

Dispatchable with load-following capability (minimum **8 hours**) to meet resource adequacy needs

Same technology and fuel type as existing contracted facility



Evaluation of Proposals

- Evaluation framework and criteria under internal development
- Evaluation will need to balance cost-effectiveness considerations and ensure competitive tensions while accounting for unique aspects of different contracts
- Further detail on proposed evaluation framework will be included in draft Call documents and shared with stakeholders on August 25th



Same Technology Upgrade Procurement Process

Overview:

Targeted call process to contract counterparties for incremental capacity from **Upgrades** to existing contracted facility

- New incremental capacity from investment in one or more upgrades (for clarity, existing uncontracted/merchant capacity is not eligible)
- Call will invite contract counterparties to bid the incremental capacity together with an extension to their existing contract term to 2035
- Facility upgrade should expect to be in service by May 1, 2025 but no later than May 1, 2026



Same Technology Upgrade Procurement – Submission

- Counterparties will to submit revisions to certain contract parameters (e.g. Net-Revenue Requirement) required for the upgrade on a contract term extension
- The ability to bid the incremental capacity together with an extension to 2035 provides a balanced framework to secure cost-effective investment in additional capacity from existing contracted assets that can meet resource adequacy needs of at least 8 consecutive hours

Parameters	Call Submission Requirements
Increase in Maximum Generator Resource Active Power Capability of the Facility (MW)	Description of upgrade and how it will increase rated capacity of facility
Capacity Payment +/-	As defined in contract (e.g. \$/MW Month)
Contract Term Extension	December 31, 2035
Expected In-Service Date	No later than May 1, 2026



Same-Technology Upgrades: Proposed Schedule

Milestones	Date
Draft Call Documents Posted	August 25, 2022
Deliverability Assessment Submission	August 30, 2022
Final Call Documents Posted	November 1, 2022
Deliverability Test Results	November 30, 2022
	(additional time required due to volume of Expedited
	Process applicants)
Call Proposal Submission	December 20, 2022
Contract Award	January 31, 2023

The IESO is dedicated to ensuring the process is conducted as expediently as possible and may consider accelerating dates where possible



Deliverability Testing



Deliverability Test Schedules

Expedited and Same Technology Upgrades	Initial Date	Revised Date
Process Milestones		
Deliverability Assessment Submission	July 27, 2022	August 30, 2022
Deliverability Test Results	September 23, 2022	November 30, 2022
LT1 RFP Milestones	Initial Date	Revised Date
LT1 RFP Milestones LT1 RFP Deliverability Test Submission	Initial Date October 1, 2022	Revised Date January 4, 2023
LT1 RFP Milestones LT1 RFP Deliverability Test Submission LT1 RFP Deliverability Test Results	Initial Date October 1, 2022 December 29, 2022	Revised Date January 4, 2023 [April 14, 2023]
LT1 RFP Milestones LT1 RFP Deliverability Test Submission LT1 RFP Deliverability Test Results	Initial Date October 1, 2022 December 29, 2022	Revised Date January 4, 2023 [April 14, 2023] (Additional time may be required



Stakeholder Feedback on Deliverability Testing

- The IESO has received significant stakeholder feedback on the proposed Deliverability Testing process and associated documents published (Deliverability Guidance Document and Deliverability Test Input Form)
- The IESO will continue to review the feedback and will seek to provide additional details on the process in addition to updating the relevant documents with updated assumptions and considerations



Clarifications based on Stakeholder Feedback (1)

- Deliverability Tests will help determine whether power injected at a given point in the grid can be delivered where it is needed; the IESO will not distinguish between different connection arrangements for this purpose.
- Only one Deliverability Test request should be submitted for each respective project submitted for consideration under the LT1 RFP or Expedited Process. In the event that two or more Qualified Applicants have identified the same proposed project, project teams should coordinate to submit one Deliverability Test request and should list all relevant Qualified Applicants in the Deliverability Test form *(to be updated)*.
- Failure to do so may result in the IESO treating a common project as two separate projects, resulting in a "deliverable but competing" test result.



Clarifications based on Stakeholder Feedback (2)

- A project submitted to the Expedited Process Deliverability Test that receives a result of "Not Deliverable" for all three size/connection variations can submit a new test request with revised size/connection variations to the LT1 RFP Deliverability Test.
- A project that receives a Deliverability Test result of "Deliverable" or "Deliverable but Competing" under the Expedited Process but is not awarded a contract will be rolled into the Deliverability Test for the LT1 RFP. The LT1 RFP Deliverability Test is a separate process, therefore the Deliverability Test results may change.



Deliverability Testing – Feedback on Project Limits

- The IESO is continuing to review feedback received on the Deliverability Testing process and the July 21 webinar
- Early theme is that some stakeholders have requested that the IESO does not limit the number of projects that can be submitted for testing by each Qualified Applicant
- While considering this feedback, the IESO wants to ensure that it is achieving two key goals of the deliverability testing process; ensuring stringent timelines are maintained and providing applicants with useful information through their deliverability test results
- Larger numbers of projects may result in many "deliverable but competing" designations and may impact IESO timelines



Deliverability Test Scenarios – Same Technology Upgrades

Deliverability Test Result	Proposal Status	Proposal Evaluation Stage	Procurement Result
Not Deliverable	Cannot proceed to proposal evaluation	N/A	Required to rescind any associated CIA-Dxs
Deliverable	Proceed	Will not be assessed any further and will be assumed Deliverable	Successful – no action required Unsuccessful – required to rescind any associated CIA-Dxs
Deliverable but Competing	Proceed	If competition is with another Upgrade project, that evaluation selects the winner; If competition is with a project in the Expedited Process, the upgrade takes priority	Successful – no action required Unsuccessful – required to rescind any associated CIA-Dxs



Deliverability Test Scenarios – Expedited Process

Deliverability Test Result	Proposal Status	Proposal Evaluation Stage	Procurement Result
Not Deliverable	Cannot proceed to proposal evaluation – can be modified and re-submitted for the LT1 RFP Deliverability Test	N/A	Required to rescind any associated CIA-DXs
Deliverable	Proceed	Will not be assessed any further and will be assumed Deliverable	Successful – no action required Unsuccessful – required to rescind any associated CIA-DXs; will be considered in the LT1 RFP
Deliverable but Competing	Proceed	Projects tested for deliverability in sequence based on evaluated proposal price ranking. Successful Same-Tech. Upgrades will be considered existing inputs	Successful – no action required Unsuccessful – required to rescind any associated CIA-DXs; will be considered in the LT1 RFP



Deliverability Test Scenarios – LT1 RFP

Deliverability Test Result	Proposal Status	Proposal Evaluation Stage	Procurement Result
Not Deliverable	Cannot proceed to proposal evaluation	N/A	N/A
Deliverable	Proceed	Will not be assessed any further and will be assumed Deliverable	Successful – no action required Unsuccessful – required to rescind any associated CIA-DXs applied for after the deliverability process, CIA-DXs applied for prior to deliverability will need to be rescinded.
Deliverable but Competing	Proceed	Projects tested for deliverability in sequence based on evaluated proposal price ranking Successful ST Upgrades will be considered existing inputs	



Next Steps



Next Steps

- The IESO will post updated versions of the Deliverability Guidance Document and Deliverability Test Input Data Form ahead of the deliverability testing window opening on August 30
- The IESO will post draft Expedited and Long-Term RFPs and forms of contract on August 25 and will focus subsequent engagements on the Expedited Process
- While stakeholder feedback on the content presented today is welcome, the IESO will proceed with the posting of draft documents, where additional opportunity for input will be available

