



NOV 19, 2025

Long Lead-Time Request for Proposals

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Territory Acknowledgement

The IESO acknowledges the land we are delivering today's webinar from is the traditional territory of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples and is now home to many diverse First Nations, Inuit and Métis peoples. We also acknowledge that Toronto is covered by Treaty 13 with the Mississaugas of the Credit First Nation.

As we have attendees from across Ontario, the IESO would also like to acknowledge all of the traditional territories across the province, which includes those of the Algonquin, Anishnawbe, Cree, Oji-Cree, Huron-Wendat, Haudenosaunee and Métis peoples.

Purpose

The purpose of this session is to continue discussing design considerations related to the development of a Long Lead-Time Request for Proposals (LLT RFP).

Agenda

Today's engagement will cover the following topics:

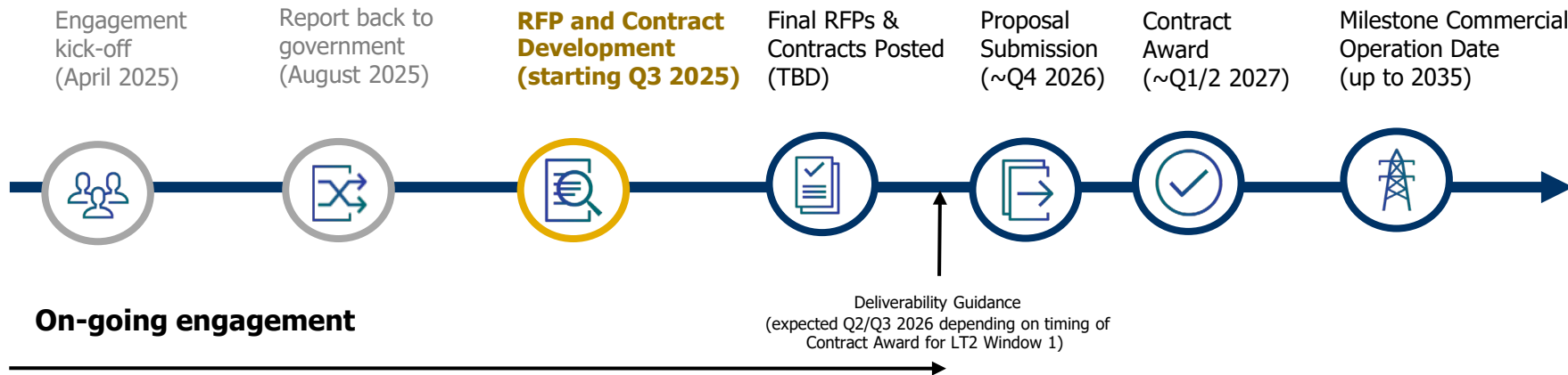
1. Recap – Foundational Design & Timelines
2. LLT Energy RFP & Contract Overview
3. Additional Design Considerations
4. Response to Stakeholder Feedback
5. Next Steps

Foundational Design Elements

- At this time, the IESO expects the LLT RFP to be administered as **a single window**, with separate energy and capacity procurements, subject to Ministerial direction.
- The LLT RFP is **intended for New Build resources** capable of meeting Performance Obligations outlined in the LLT(e) or LLT(c) Contract, as applicable.
- To be eligible, **projects must require a lead-time of five or more years**; LLT Capacity Projects may be required to demonstrate this to the IESO.
 - For greater clarity, lead time means the period between contract execution and commercial operation.
- A **40-year contract term** is being proposed for all successful projects across both the Energy and Capacity streams; as such resources are expected to be able to operate reliably over this period with minimal interruptions.

Recap - Procurement Timelines

- As a reminder, procurement timelines are under development and will need to be coordinated with activities related to Window 1 of the LT2 RFP.



The timelines presented above are approximate and are subject to change pending policy direction from the Ministry, and when final RFPs and Contracts are posted.

Overview of LLT RFP Design Considerations

Design Items Discussed Today

Energy Only

- Resource Eligibility
- Regulation Services Readiness
- Team Member Experience
- Access Rights

Both Capacity and Energy

- Optional Termination
- Early In-Service Provisions
- Environmental Approvals and Permitting
- Early Deliverability Discussions

Items under Ongoing Consideration

- Resource Eligibility (Class II Technologies for Capacity)
- Deliverability
- Contract Escalation
- Technical Rated Criteria (e.g., Duration) & Points Allocation
- Reserve Price
- Must Offer Obligations (Capacity)

Policy Related Items are subject to direction from the Ministry of Energy and Mines:

- *Applicability of Tariff Provisions*
- *Canadian Status*
- *Proponent Incentives*
- *Policy related mandatory requirements and rated criteria*



LLT Energy - High Level Overview of RFP and Contract

LLT(e) RFP – Resource Eligibility (1)

- The energy stream of the LLT RFP will be open to **LLT Energy Projects** that:
 - are a New Build hydroelectric Electricity generating facility;
 - have a Nameplate Capacity that is equal to or greater than 1 MW;
 - do not utilize Pumped Hydroelectric Storage;
 - deliver Electricity through its own meter; and
 - can participate directly in the IESO-administered markets.
- Proponents must also meet the Team Member Experience requirements, demonstrate access rights to the Project Site, meet policy-based requirements and comply with all other eligibility requirements outlined in Section 2.1 of the draft LLT(e) RFP.

LLT(e) RFP – Resource Eligibility (2)

- After considering stakeholder feedback, **the IESO is proposing that hydroelectric redevelopments will not be eligible to participate in the LLT RFP.**
- Reasons include, but are not limited to:
 - the IESO has received limited information from Proponents looking to redevelop hydro facilities and historical redevelopment timelines are highly variable;
 - there are examples of facilities that took up to 6 years to redevelop and others that were able to redevelop in less than 4 years under opportunities with 20-year contract terms
 - the IESO has seen little evidence to justify awarding 40-year contracts for hydro redevelopments; and
 - the IESO's preference is for all resources that are able, to participate in the LT2 RFPs.

LLT(e) RFP – Resource Eligibility (3)

- The IESO encourages owners of hydro facilities for which they are considering redevelopments to participate in future LT2 engagements that will be held in early 2026 to discuss repowering across various technology types.

LLT(e) RFP – Regulation Service Readiness

- The IESO continues to consider whether regulation service readiness requirements will be included in the LLT RFP as either a mandatory requirement or rated criteria.
- As a reminder, under the energy stream, this requirement is generally being considered for hydro facilities with a maximum Contract Capacity greater than 20 MW (i.e., those that can provide a 20 MW range (± 10 MW regulation) above their minimum loading point).
- In order to be considered "regulation ready" a facility would also need to:
 - Have a minimum ramp rate of 5 MW/min; and
 - Be capable of receiving and following regulation signals every 4 seconds or less.
- Further details regarding requirements to be "regulation ready" can be found in the [October 21, 2025 Stakeholder Engagement Presentation](#), with relevant market rules and manuals referenced in Appendix A of the same presentation.

LLT(e) RFP - Team Member Experience

- The Proponent must have at least two Designated Team Members who, collectively, have experience in the Planning, Developing, Financing, Constructing and Operating at least one Same-Technology Qualifying Project.
- A Same-Technology Qualifying Project means a hydroelectric Electricity generation facility:
 - With a nameplate capacity of at least 1 MW; and
 - That has achieved commercial operation in any jurisdiction in Canada or the United States of America no more than fifteen (15) years prior to the Proposal Submission Deadline.

LLT(e) RFP – Access Rights (1)

Similar to the LT2(e-1) RFP, Proponents will need to demonstrate Access Rights to Properties within their Project Site at time of Proposal submission. Under the LT2(e) RFP, the following applies:

Project Site land classification	LT2(e-1) Requirement
Privately held lands	• Ontario land parcels register (or equivalent) evidencing the registered title holder(s) of the Properties included in the Project Site • Letter signed by the registered title holder(s) confirming non-conditional access rights • Scale map showing the outer boundary of the Project Site
Governmental Authority held lands (e.g., Federal lands)	• Ontario land parcel registers (or equivalent) evidencing the registered title holder(s) of the Properties included in the Project Site • Letter signed by or on behalf of the Governmental Authority(ies) confirming non-conditional access rights • Scale map showing the outer boundary of the Project Site
Provincial Crown land managed by the Ministry of Natural Resources	• MNR Confirmation Letter • Crown Land Shapefile establishing the boundary(ies) of the Project Site(s) for the Primary Proposal PQ (and PQ Alternates, as applicable) • Attestation that the Project Site information included in the Crown Land Shapefile is consistent with the information included in the Crown Land Site Report (submitted to MNR), and that the Project Site does not use any AOR Held Lands for which the Proponent is not the Applicant of Record

LLT(e) RFP – Access Rights (2)

- The IESO and Ministry of Natural Resources (MNR) are considering whether additional or modified access rights requirements should apply to hydro resources including, but not limited to:
 - Demonstrating access to use the waterbeds required for the project; and
 - Expanded shapefile requirements that consider the proximity of the project to other hydro resources and the impact of multiple projects located on adjacent water bodies or cascading water systems.
- To help inform requirements, the IESO is seeking stakeholder feedback to understand access rights considerations for waterpower projects.

LLT(e) RFP - Registration & Proposal Review

The following processes will be similar to the LT2(e-1) RFP, with some minor adjustments.

- Proponents who wish to submit a Proposal must register their project and pay the associated non-refundable registration fee (\$500) during the timelines specified in the RFP.
- Submitted proposals will be evaluated over 5 stages, including:
 - Stage 1 - Completeness Requirements (similar to LT2)
 - Stage 2 – Mandatory Requirements
 - Stage 3 – Rated Criteria (subject to government direction)
 - Stage 4 – Review of Economic Bid Statement
 - Stage 5 – Deliverability Assessment

LLT(e) Contract – High Level Overview (1)

The LLT(e) Contract will be an E-PPA form of contract, substantially similar to the LT2(e-1) contract (subject to adjustments), including the following key contractual parameters:

Requirements for Commercial Operation (Article 2)

- The Facility must come into service by the Milestone Date for Commercial Operation (8 years after the Contract Date).
 - Early in service may be permitted subject to IESO approval; proposed design details are included on slides 26-27 of this presentation.
- The Supplier must provide documentation to demonstrate that the facility has achieved commercial operation (e.g., IE Certificate, Metering Plan, etc.).

LLT(e) Contract – High Level Overview (2)

Performance Obligations (Article 3)

- Requirement to offer Electricity output from the Facility into the IESO-Administered Markets from the Contract Capacity that is not subject to an Outage.
- Starting after the third Contract Year, the Supplier must maintain an Actual Performance Factor of at least 80% of the Annual Average Imputed Production Factor for Electricity output from the Facility. Planned Outages are included in this calculation, while Grid Based Unavailability, Force Majeure and Mid-Term Extended Outages will not be included.
- If a resource falls below the Minimum Performance Factor, a Non-Performance Charge will be applied, per Exhibit F of the draft LLT(e) Contract.
 - *As there is no forecast available for output from hydro facilities, the IESO is considering how to address low production periods that are outside of the Supplier's control .*

LLT(e) Contract – High Level Overview (3)

Completion and Performance Security (Article 6)

- The Supplier must post and maintain the required amounts of Completion and Performance Security from the Contract Date until the end of the Term; initial amount is reduced from LT2(e-1) as discussed in prior engagements.

LLT(e) Contract – High Level Overview (4)

Monthly Payment (Exhibit J)

- The energy contract is structured as a financial guarantee of the Supplier's calculated monthly revenue requirement.
 - **Monthly Revenue Requirement** = Indexed Fixed Price (\$/MWh) * Annual Average Imputed Production Factor * Contract Capacity * # of hours in the Settlement Month
- The Monthly Payment is calculated by subtracting the Facility's imputed market revenues (based on what the Facility is deemed to have earned in the IESO's wholesale energy market) and any Non-Performance Charges from the Facility's monthly revenue requirement.
 - **Monthly Payment** = Monthly Revenue Requirement – Imputed Market Revenues – Non-Performance Charges



Additional Design Considerations

Optional Termination - Feedback Received (1)

- The IESO acknowledges stakeholder feedback received regarding optional termination which reflects opposition to the inclusion of this provision; stakeholders have requested further details to fully consider the proposal.
- The following potential impacts were identified:
 - **Reduced participation levels**, in a procurement that is already limited to specific resource types, due to the associated risks;
 - **Challenges with obtaining financing** or more expensive financing, which will drive up overall project costs; and
 - **Barrier to Indigenous Participation**; Indigenous communities typically invest in projects with a high likelihood of reaching commercial operation and generating long-term revenue.

Optional Termination - Feedback Received (2)

- If the IESO chooses to include the provision, stakeholders have suggested that the IESO should:
 - Clarify circumstances under which the IESO could exercise optional termination;
 - Include an NTP milestone that aligns with project development (3 years has been flagged as insufficient for hydro resources);
 - Not allow termination beyond the NTP milestone date;
 - Include a clear and fair compensation mechanism in the event that the IESO terminates the agreement; and
 - Clarify what expenses would be reimbursed in addition to including multipliers on payment of capital spent up to the termination date and consider the expected rate of return related to the project.

Optional Termination - Considerations

- The IESO appreciates stakeholder feedback on this item and continues to consider the design details that would apply should an optional termination provision be included as part of the LLT RFP. At a high level, the IESO is considering:
 - **The inclusion of specific reasons for which both the IESO and Supplier can terminate the contract** (e.g., failure to meet key milestones or obtain permits).
 - **The date on which the optional termination right would lapse** and how this relates to a milestone that indicates readiness to commence construction.
 - **The appropriate termination payment that should apply** where the IESO terminates or the Supplier exercises optional termination.
 - How **Supplier elected termination would impact ability to participate in future IESO procurements** with the same project.

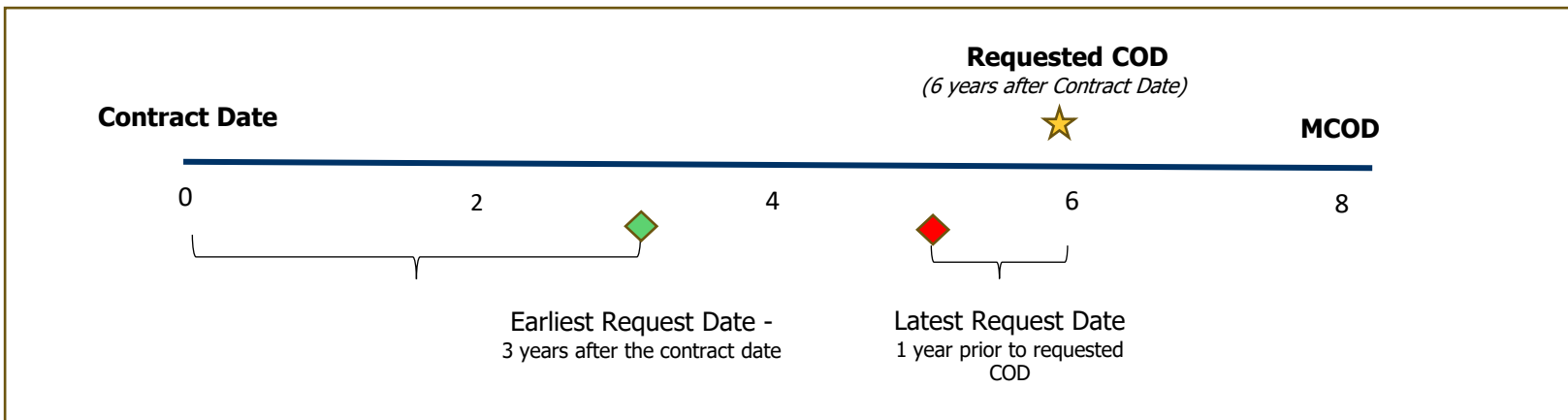
Early In-Service Provisions (1)

- Proponents can **connect** their projects early, provided the facility meets all applicable requirements to be registered and become a Market Participant.
- If a Proponent would like the **contract to commence early** (i.e., Commercial Operation to occur in advance of the Milestone Date for Commercial Operation), the IESO is proposing that approval will be required, subject to the following requirements:
 - Commercial Operation can occur no earlier than 5 years after the Contract Date; and
 - The request for an early Commercial Operation can be made no earlier than three years post the Contract Date and at least one year in advance of the expected Commercial Operation Date (COD).
- IESO approval is expected to depend on factors such as system needs that exist at the time of the request (for instance, current Planning outlooks show a need for energy arising earlier than capacity) and an assessment of whether the energy can be deliverable.

Early In Service Provisions (2)

- The IESO is also considering whether a Proponent would be able to make a second early commercial operation request in the future should the original request be rejected.

ILLUSTRATIVE TIMELINE – REQUEST FOR EARLY COD 6 YEARS AFTER THE CONTRACT DATE



Environmental Approvals and Permitting

- As certain LDES technologies are new to Ontario, the IESO recommends early consultation with the Ministry of Environment, Conservation and Parks (MECP) to discuss what environmental assessments and permitting requirements may apply to your project.
- For general questions related to environmental approvals and permitting, please reach out to the Client Services and Permissions Branch of the Ministry of Environment, Conservation and Parks (MECP): enviropresubmission@ontario.ca.
- For questions related to Renewable Energy Approvals (REAs), please contact the REA program delivery team: REAprogramdelivery@ontario.ca.

Early Deliverability Discussions

- The IESO will offer LLT RFP Deliverability Discussions with interested Proponents between December 2025 and January 2026.
- These discussions will provide an opportunity for prospective Proponents to share information regarding their projects, to better support the proposal submission process.
- Proponents can contact engagement@ieso.ca to request further information and to schedule a discussion.

Early Deliverability Discussion Request

To schedule a virtual meeting with the IESO email engagement@ieso.ca with the Subject Line: *LLT Early Deliverability Discussion* and provide the following information:

1. General project information (technology type, project size, locations under consideration, etc.)
2. Questions you wish to ask during the discussion
3. List of attendees
4. Preferred date and time (provide at least two options)

Upcoming Bulk Planning Engagements

- The IESO posted its generation assumptions for the South and Central Bulk Plan on November 18, further details can be found [here](#).
- The IESO is seeking feedback on the assumptions that were shared and is looking for further information on potential resources (technology type and size) looking to locate in Ontario in the coming years.
- This feedback will help the IESO to refine energy modelling assumptions, which may inform transmission reinforcement recommendations in the bulk plan.
- Please use the feedback form available on the Bulk Planning webpage to share any feedback related to the generation assumptions and/or potential projects.



Response to Stakeholder Feedback

Resource Eligibility- Eligible LDES Technologies

What we've heard from stakeholders

- The IESO should avoid limiting participation based on technology type. Instead, the IESO should publish clear, transparent eligibility requirements and allow any technology that meets those requirements to participate in the procurement.

IESO Response to Feedback

- The IESO has established eligibility for the LLT RFP based on technologies that have demonstrated sufficient maturity to meet Ontario's system needs, require long lead times, and have expected lifetimes of 40+ years. Technologies that can be developed in less than 5 years are encouraged to participate in future windows of the LT2 RFP.
- Many emerging technologies remain in early development or proof-of-concept and the IESO is uncomfortable relying on these newer technologies to meet targets.

Resource Eligibility- Class II LDES Technologies

What we've heard from stakeholders

- The IESO should increase the 100 MW cap on Class II LDES Technologies; the current design, which includes a proposed 50 MW minimum project size and a 100 MW cap, would limit the procurement to a maximum of 1-2 projects from these technologies.

IESO Response to Feedback

- The IESO is considering increasing the limit on Class II LDES Technologies from 100 MW to 200MW to allow Proponents greater flexibility to participate.
- As a reminder, the cap is being proposed to limit risks related to procuring less proven technologies (that carry higher delivery and performance uncertainty) and encourage participation from a diverse set of Eligible LDES technologies.

Minimum Project Size (Capacity)

What we've heard from stakeholders

- The IESO should reduce the proposed 50 MW minimum project size requirement for LDES technologies in the LLT(c) RFP. Stakeholders proposed a range of minimum project sizes that should apply, from 40 MW to as low as 1 MW.

IESO Response to Feedback

- The IESO is considering lowering the minimum project size for LDES technologies in the LLT(c) RFP from 50 MW to 10 MW to provide greater flexibility.
- The minimum size requirement is intended to ensure participation from commercial-scale projects, as the LLT RFP is a reliability-focused procurement and not intended to procure less proven pilot-scale technologies.

Team Member Experience

What we've heard from stakeholders

- The IESO should not require Team Member Experience in Same Technology Qualifying Projects, this may be challenging for more mature resource types such as pumped hydro storage which were commissioned over 15 years ago and may also pose a challenge for other LDES technologies; requirements should be consistent with the LT2 RFP.

IESO Response to Feedback

- The IESO acknowledges the feedback received and the challenges that have been raised and is open to exploring Team Member Experience requirements that provide more flexibility for prospective proponents while also ensuring adequate developer experience.
- The IESO will review feedback submitted and provide an updated proposal during the next stakeholder engagement.

Mid-Term Extended Outages

What we've heard from stakeholders

- The IESO should consider:
 - permitting Suppliers to take Mid-Term Extended Outages beginning after year 10 of the contract term; and
 - providing the flexibility for Suppliers to take multiple Mid-Term Extended outages over the contract term that add up to a total period of 12 months.

IESO Response to Feedback

- The IESO will consider additional flexibility related to taking Mid-Term Extended Outages and will present its proposal in an upcoming stakeholder engagement session.

Annual Planned Outages (Capacity)

What we've heard from stakeholders

- Technologies utilizing mechanical storage, such as compressed air energy storage and pumped hydroelectric storage, should be able to take an annual planned outage for up to 10 business days, in a manner consistent with that for natural gas facilities in the LT2(c-1) Contract.

IESO Response to Feedback

- The IESO will review Planned Outage provisions included in the draft LLT(c) Contract and will consider updating the language to better reflect annual planned maintenance outage requirements for LDES technologies.

Reserve Price

What we've heard from stakeholders

- Many stakeholders are opposed to the use of reserve prices, indicating that prices from recent IESO procurements are not a good comparison due to the types of technologies procured and their associated lifespans.

IESO Response to Feedback

- Reserve prices allow the IESO to prioritize rate payer value by procuring cost-effective resources while managing the uncertainty associated with the cost of developing long lead-time resources and maintaining the objective of broadening Ontario's supply mix. The potential benefits associated with long lead-time resources, along with the longer lifetimes, will be considered in the determination of a reserve price.

Procurement Target

What we've heard from stakeholders

- The IESO should increase the proposed procurement target for the capacity stream of the LLT RFP and consider additional procurement windows, such as those in the LT2 RFP.

IESO Response to Feedback

- The IESO has proposed targets with the intention of balancing system needs and competition; final targets will be informed by government direction.
- The IESO expects to be directed to execute a single window of the LLT RFP at this time. The potential for future windows will be directly informed by system needs and procurement outcomes from the first window.



Q&A



Next Steps

Next Steps

- The IESO invites stakeholder feedback on the materials presented today, including the proposed procurement considerations by **December 3, 2025**.
- Written feedback should be submitted to engagement@ieso.ca utilizing the IESO Feedback Form posted on the engagement webpage.
- First drafts of the LLT Energy RFP and Contract are now available for review on the [LLT RFP Procurement Website](#). Please use the feedback form to provide feedback on the documents along with feedback on design items presented in this session.
- If you have any questions regarding the LLT RFP, please send them to LLT.RFP@ieso.ca.

Thank You

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