



SEPT 16, 2025

Long Lead-Time Request for Proposals

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Purpose

The purpose of this session is to provide an update on the report back that was submitted to the Ministry of Energy and Mines in August 2025 and continue discussing design considerations related to the development of a Long Lead-Time Request for Proposals.

Agenda

Today's engagement will cover the following topics:

1. Report Back Update & Design Considerations
2. Additional Stakeholder Feedback
3. Next Steps



Report Back Update & LLT RFP Design Considerations

Background

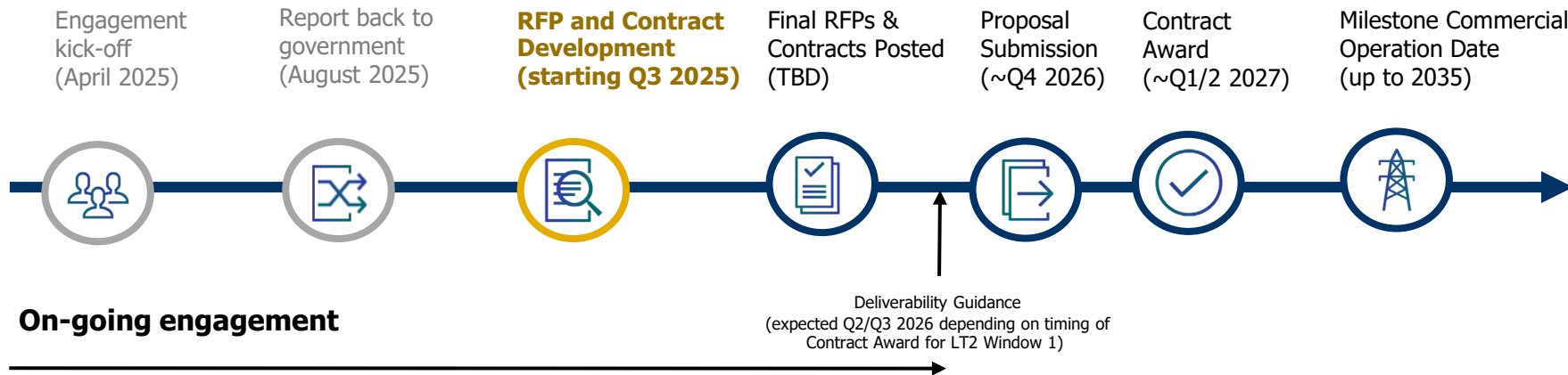
- A procurement for long lead time resources was initially contemplated as an additional stream under the Second Long Term Request for Proposals (LT2 RFP), as such early design discussions were facilitated as part of LT2 engagements in early 2024.
- A separate procurement for long lead time resources was proposed in response to stakeholder feedback that these resources are unique and require different considerations than resources with shorter lead times participating in the LT2 RFP.
- The IESO issued a Long Lead Time Request for Information (RFI) to gain project specific insights in the fall of 2024 and began engaging with stakeholders, using insights gained through the RFI as a starting point, on the design of the Long Lead Time Request for Proposals (LLT RFP) in April 2025.

Report Back – General Overview

- The IESO submitted a report back to the Ministry of Energy and Mines on August 29, 2025, that included:
 - results of the Long Lead Time RFI;
 - stakeholder feedback received up to the date of report submission;
 - high level design recommendations; and
 - requests for further input from the Ministry (e.g., regarding policy related items).
- Certain content within the report back reflects information that has already been communicated to stakeholders. For more information regarding:
 - **LLT RFI Results**, see [April 23, 2025 engagement materials](#)
 - **Overarching Procurement Principles**, see [June 5, 2025 engagement materials](#)

Procurement Timelines

- 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 depending when final policy direction is received from the Ministry, and when final RFPs and Contracts are posted.

Procurement Targets

- The IESO proposed the following targets in the report back for Ministry consideration:
 - **up to 1 TWh** for the energy stream
 - **in the range of 600-800 MW** for the capacity stream
- The proposed target for the capacity stream was increased from the proposal in the June 5 engagement to recognize the volume of system needs arising in 2035.
- The IESO may implement a mechanism similar to the MT2 RFP, whereby a percentage of proposals are moved to the offer list (e.g., 80%), if the capacity and/or annual energy associated with all proposals is less than the target in each respective stream.
- In advance of procurement launch, targets are subject to change based on updates to the demand forecast (via the Annual Planning Outlook), results of other procurements, and will be established through formal government direction.

Defined Terms

- Capitalized terms used in this section of the presentation reflect defined terms used in the LT2(e-1) and LT2(c-1) RFPs and Contracts.
- Please refer to these documents for further details (see [LT2 RFP webpage](#)).

Foundational Design Elements (1)

- The following elements will set the foundation for the LLT RFPs and Contracts and will inform other design considerations:
 - The LLT RFP is **intended for new build resources**, however the IESO is considering whether hydro redevelopments will be eligible to participate. Redevelopments are characterized as large-scale replacements of existing equipment that would be similar in scope to a new build facility.
 - To be eligible to participate in the procurement, **projects must require a lead time of five or more years**. For technologies where the IESO is less certain of the lead time required, such as eligible emerging LDES technologies and hydro redevelopments (if eligible), Proponents may need to prove they meet this requirement (e.g., via an Independent Engineer report that provides information such as project scope, permitting path, supply chain constraints/lead times, etc.).

Foundational Design Elements (2)

- A **40 year contract term** is being proposed for all eligible resources across both the energy and capacity stream; as such resources are expected to be able to operate reliably over this period with minimal interruptions.

Resource Eligibility – Energy and Capacity Streams

- To provide resources with the opportunity to compete on a like for like basis, the LLT RFP will be bifurcated into an energy and capacity stream.
- Eligibility for each stream will be defined/limited to ensure that successful resources are offered a contract with obligations that best reflect resource characteristics.



Energy Stream

Hydro resources (with the exception of pumped hydro storage) will be eligible to participate in the energy stream only and will be awarded an E-PPA contract.



Capacity Stream

LDES resources (including pumped hydro storage) will be eligible to participate in the capacity stream only and will be awarded a capacity contract.

Resource Eligibility – Reservoir Hydro

- For greater clarity, reservoir hydro (hydro with storage capability that is not pumped hydro) will be eligible to participate in the energy stream only for the following reasons:
 - these resources are ideal candidates for the IESO's recently developed enhanced power purchase agreement (E-PPA); expected to produce energy at a high capacity factor, with ability to shift some output;
 - although these resources have some storage capability, they are still considered to be energy limited, fuel supply is not consistent enough to meet the obligations of a capacity contract, which currently requires the ability to offer full contract capacity between 7am-11pm on Business Days throughout the year; and
 - unlike storage resources, reservoir hydro facilities are unable to re-fill water in their reservoir on demand and may be further limited by water management requirements.

Resource Eligibility – Hydro Redevelopments (1)

- The IESO is continuing to explore whether hydro redevelopments should be eligible to participate in the LLT RFP.
- The IESO is considering allowing participation of redevelopments in instances where:
 - the existing facility would otherwise reach the end of its useful life;
 - the project involves substantial replacement of the powerhouse and associated water conveyance and utilization infrastructure;
 - the project would take five or more years to complete; and
 - following redevelopment, the expected operational life of the facility would be comparable to that of a newly constructed facility.

Resource Eligibility – Hydro Redevelopments (2)

- To help inform eligibility, the IESO is looking for project specific details from hydro resources that are looking to redevelop, including:
 - existing nameplate and/or contract capacity, location, market participant status, original in-service date, remaining useful life and projected end of life;
 - expected time required to redevelop the resource, a list of key milestones/activities, and projected operational lifetime post redevelopment; and
 - information regarding whether the redevelopment will result in an increased capacity at the facility beyond what is currently registered with the IESO.
- The IESO will host a broader engagement session on repowering in October to discuss this consideration, as well as eligibility for expansions and upgrades of hydro and other resource types across the suite of IESO procurements (e.g., LT2, MT3).

Policy Related Requirements & Rated Criteria

- The IESO has communicated stakeholder feedback regarding policy related requirements and rated criteria in its report back. The final decision related to these items will be made by the Ministry of Energy and Mines and is expected to be reflected in a future Directive specific to the LLT RFP.
- To inform decisions related to rated criteria for projects locating in Prime Agricultural Areas (PAAs), the IESO is seeking further information, including but not limited to:
 - whether proponents are intending to locate their project in a PAA;
 - approximate project footprint (in acres), including distinction of surface level and subsurface components;
 - land/soil impacts during construction and operation; and
 - portion of the land that will remain available for agricultural use post COD.

Team Member Experience Requirements - Capacity

- Under the LT2(e-1) and LT2(c-1) RFPs, the Proponent must have at least two (2) Designated Team Members who have experience in the Planning, Developing, Financing, Constructing and Operating of at least one (1) Qualifying Project, where such individuals had managerial authority in respect of such functions (the “Team Member Experience”).
 - Qualifying Projects are those with a nameplate capacity of at least 1 MW that have achieved commercial operation in Canada or the United States of America
- In recognition of the fact that LDES technologies are new to Ontario and in certain cases, North America, under the LLT RFP the IESO is proposing to expand Qualifying Projects (under the capacity stream) to include those that have reached commercial operation in Europe and Australia.

Round Trip Efficiency – Capacity

- Information received through the Long Lead Time RFI indicates that LDES resources are expected to have lower round trip efficiencies (RTEs) than battery storage. To minimize operational limitations, the IESO is considering adding a new mandatory requirement that that would require all proposed LDES projects to have a minimum RTE.
- In addition, to incentivize proponents to propose projects that can provide the most value to the system, the IESO is considering providing rated criteria points to projects with RTEs beyond the minimum requirement.
- The methodology that will be used to allocate rated criteria points, and the maximum number of available points are still to be determined.
- The IESO is seeking stakeholder input to help inform the minimum RTE requirement and development of the associated rated criteria.

Deliverability Guidance and Testing

- Updated deliverability guidance will be issued once contracts are awarded under the LT2(e-1) and LT2(c-1) RFPs; this is expected in late Q2/early Q3 2026.
- To allow the IESO to better understand long lead-time projects, the IESO plans to offer early deliverability discussions with LLT RFP Proponents beginning in December 2025.
- The purpose of these discussions is to provide an opportunity for Proponents to share information about their long lead time project(s) to set the IESO up to better support Proponents closer to proposal submission.
- These sessions are intended to serve as an initial opportunity to connect with the IESO and will not be the only opportunity to discuss deliverability considerations.
 - Further information on how to schedule a session will be shared in a future engagement.

Contract Provisions: Must Offer Obligations (1)

- Currently, under the LT2 capacity Contract, resources must offer their full contract capacity into the Day Ahead Market (DAM) between 7am-11pm on Business Days.
- The IESO has received feedback from stakeholders requesting softening of the Qualifying Hours window for LDES technologies with lower RTEs (who may require longer than 8 hours overnight to recharge) under the LLT Contract to ensure that they can meet the Must Offer Obligations without incurring non-performance charges.
- Market enhancements contemplated for storage resources under the IESO's [Enabling Resouces Program \(ERP\)](#) will take into consideration RTE and State of Charge (SoC) when scheduling resources for dispatch in the day ahead time frame.
 - The IESO held a preliminary engagement on [July 24, 2025](#) to discuss this design consideration, among others, and seek stakeholder feedback and intends to re-engage on this topic later this fall.

Contract Provisions: Must Offer Obligations (2)

- Under the current market rules, the max daily energy limit (max DEL) parameter currently applicable to storage resources prevents resources from being scheduled beyond estimated capability; the enhancements being considered under ERP will enhance the IESO's visibility of resource capabilities at the time of scheduling/dispatch.
- The IESO does not anticipate any changes being required to the Must Offer Obligations under the LLT Contract.

Contract Provisions: Planned Outages

- Under LT2, Planned Outages are permitted under both the capacity and energy contracts
 - In the case of energy contracts, Planned Outages will impact the assessment of availability/resource performance and can result in non-performance charges and ultimately can lead to an event of default. Proponents should incorporate planned outages into their Imputed Production Factors to avoid non-performance charges.
 - Under the capacity contract, Planned Outages are considered as part of the calculation of Availability Non-Performance Charges. A resource can be on a Planned Outage for up to one month, spread out over one or two calendar months only in the months of April, May, October or November, after which non-performance charges will apply.
- The IESO anticipates offering the same Planned Outage provisions under the LLT Contracts and separate coverage for Grid Based Unavailability and Force Majeure.

Contract Provisions: Long Term Outages

- In addition to Planned Outages the IESO is considering offering successful long lead time projects the opportunity to take one long term outage during the contract term.
- To maintain consistency with outages provisions under the LT2 Contract, the long-term outage will only be permitted during the second half of the term (i.e., after year 20).
- The IESO will require Suppliers to indicate the approximate timing of the outage upfront, as part of a broader schedule of expected activities. The outage will be subject to approval by the IESO and Suppliers will need to provide sufficient notice (e.g., notify the IESO at least 1 year in advance of the expected outage dates).
- The IESO is proposing **a maximum long term outage duration of six months**; during this time **contract payments will not be paid to the Supplier** and non-performance charges would not apply.

Contract Provisions: Environmental Attributes

- Under the LT2 Contract, all Environmental Attributes, and any revenue earned in relation to their sale, are to the benefit of the Supplier.
- Given the 40-year contract terms that are being contemplated for resources that are successful under the LLT RFP, and potential future changes in the value of clean energy credits, the IESO is considering whether a sharing mechanism should be put in place for Suppliers to share benefits that result from the sale of environmental attributes with the IESO; this mechanism could be similar to the sharing provisions related to Additional Sources of Funding included in the LT2 Contracts.
- The IESO is considering a structure where Suppliers retain the sole rights to Environmental Attributes during the first 20 years of the 40 year LLT contract term, consistent with the LT2 framework. A sharing mechanism would apply for the remaining 20 years.
- Details regarding the sharing mechanism will be proposed in a future engagement.



Response to Stakeholder Feedback

Resource Eligibility – LDES Technologies

What we've heard from stakeholders

- The IESO should clarify its definition of commercially-proven LDES technologies and consider allowing resources with a Technology Readiness Level (TRL) of 8 or higher to participate in the LLT RFP

IESO Response to Feedback

- The IESO will establish formal definitions related to eligible technology types as part of RFP and Contract development; for clarity, at this time Compressed Air Energy Storage and Pumped Hydro Storage technologies will be eligible to participate.
- The IESO will continue to explore participation of emerging technologies, such as Liquid Air Energy Storage and other technologies (e.g., compressed gas) that are able to demonstrate a sufficient level of technology readiness.

Storage Duration

What we've heard from stakeholders

- The IESO should consider increasing the minimum duration requirement to 10 or 12 hours.

IESO Response to Feedback

- The minimum duration requirement for resources participating in the LLT RFP is still under consideration; the IESO will present its proposal in a future stakeholder engagement.
- The IESO expects LDES resources that participate in the LLT RFP to be in the 8-12 hour duration range, which can realize the most reliability benefits at this time.
- Further study is required to evaluate the benefits of longer durations, to ensure strategic alignment of storage characteristics with identified system needs.

Policy Direction: Rated Criteria

What we've heard from stakeholders

- The LLT RFP should not use locational rated criteria, such as rated criteria for Proposals located in Northern regions or located outside of Prime Agricultural Areas.

IESO Response to Feedback

- The inclusion of rated criteria related to locational considerations will be reflective of policy decisions made by the Ministry of Energy and Mines that are issued to the IESO in the form of a Directive specific to the LLT RFP.
- The IESO has shared this stakeholder feedback with the Minister in its LLT RFP Report Back.

Policy Direction: Additional Incentives

What we've heard from stakeholders

- The IESO should consider a price incentive for projects led by or in partnership with Indigenous Communities, in addition to rated criteria points.

IESO Response to Feedback

- Whether incentives related to Indigenous Community Participation are included in IESO procurements is informed by government policy direction. The incentives included in the LT2 RFP were developed working with the Ministry of Energy and Mines and a similar approach is expected under the LLT RFP (i.e., rated criteria points).
- The IESO expects to receive formal policy direction on this and other matters in advance of launching the LLT RFP.

Proposal and Completion and Performance Security

What we've heard from stakeholders

- The IESO should allow for a more flexible Proposal Security mechanism to promote participation from early stage projects; some stakeholders suggested aligning security amounts with those proposed under other initiatives such as the Small Hydro Program (SHP).

IESO Response to Feedback

- To address stakeholder concerns, the IESO is proposing a staged approach to the provision of security under the LLT RFP, including a reduced proposal security (\$20,000/MW).
- The LLT RFP is a reliability-based procurement, intended to secure incremental energy and capacity from new resources that will contribute to system needs over a 40-year term. As such security requirements will be higher than re-contracting procurements, and more aligned with procurements for new resources (such as the LT2 RFP).

Non-Performance Charges

What we've heard from stakeholders

- For energy producing resources, non-performance charges should be determined using a 5-year rolling average.

IESO Response to Feedback

- At this time, the IESO is not contemplating a change to the period over which non-performance is evaluated.
- The IESO is currently considering alignment of non-performance charges for energy contracts under the LLT RFP with those under the LT2(e-1) RFP, which calculate non-performance charges using a 3-year rolling average. Such a period allows for effective accounting of anomalies that may impact production, such as irregular weather patterns.

Contract Escalation

What we've heard from stakeholders

- The IESO should provide 100% indexing from the contract date to COD/MCOD (similar to the LT2 RFP) and then provide 60% indexing from COD until the contract end date.

IESO Response to Feedback

- The IESO is still determining the contract price escalation that will be applied during the contract term for long lead-time projects, which may be different than the escalation mechanisms that apply under the LT2 RFP.
- The IESO notes that indexing was included in the LT2 RFP for window 1 specifically to address inflationary risks created by the current trade and political climate. Consideration of whether to include similar provisions in the LLT RFP will, in part, be based on whether those conditions continue to exist.



Next Steps

Next Steps

- The IESO invites stakeholder feedback on the materials presented today, including the proposed procurement considerations by **September 30, 2025**. All written feedback should be submitted to engagement@ieso.ca utilizing the IESO Feedback Form posted on the engagement webpage.
- The IESO is hosting an engagement on September 30, 2025 to share progress updates related to the current North of Sudbury, Eastern Ontario and South and Central bulk planning studies. Stakeholders interested in attending can find further details and registration information here: [IESO Quarterly Bulk Planning Update](#).

Next Steps

- The following engagements are being planned for October:
 - Repowering Discussion
 - LLT RFP Session #4 – Additional Design Considerations & Response to Feedback
- If you have any questions regarding the LLT RFP, please send them to LLT.RFP@ieso.ca.



Q&A

Thank You

ieso.ca

1.888.448.7777

customer.relations@ieso.ca

engagement@ieso.ca



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