

Stakeholder Feedback and IESO Response

Long Lead-Time RFP (LLT RFP) – June 13, 2025

Following the April 23, 2025 LLT RFP stakeholder engagement webinar, the Independent Electricity System Operator (IESO) invited stakeholders to provide feedback on the following design items: Resource Eligibility, Term Length, Proposal and Contract Security, Rated Criteria and Contract Design Considerations. Non-confidential feedback is posted on the Long Lead-Time RFP [engagement webpage](#). Feedback identified as confidential by stakeholders is not posted, but reflected as part of the common feedback themes. Please reference the feedback forms for specific feedback as the information below is provided in summary.

Note on Feedback Summary and IESO Response

The IESO appreciates the feedback received from stakeholders and communities. The tables set out below respond to the feedback received and are organized by topic.

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A) Resource Eligibility – Hydro

Stakeholders were supportive of the IESO's proposal to bifurcate the long lead-time RFP into separate energy and capacity streams and the proposal that hydroelectric facilities, other than pumped hydroelectric, are better suited to participate in the energy stream. Additional feedback is summarized below.

Feedback / Common Themes	IESO Response
Suppliers of hydroelectric facilities should be eligible to participate in the IESO procurement that best meets their project-specific requirements (e.g. Small Hydro Program, Northern Hydro Program, LT2 RFP, Long Lead Time RFP).	<p>Suppliers are able to participate in any procurement for which they meet all eligibility requirements.</p> <p>Each procurement serves a different purpose (e.g., NHP is generally for existing resources, LLT is intended for resources that are new or can be likened to new) and hence may have different eligibility requirements that apply.</p>
The IESO should consider making redevelopments, expansions and upgrades of existing hydroelectric assets eligible for the LLT RFP. Stakeholders indicated that currently there is no mechanism within existing and proposed IESO initiatives to procure incremental energy or capacity from hydroelectric expansions or upgrades. Further, the IESO should enable these considerations with the appropriate contract terms.	<p>The IESO is open to considering redevelopments for the LLT RFP and is seeking project specific information from prospective Proponents to inform its decision.</p> <p>While expansions and upgrades are currently not being considered under the LLT RFP, the IESO has two programs for existing hydroelectric facilities – the Small Hydro Program and the Northern Hydro Program. Both of these programs do not preclude changes to existing facilities that are not separately metered.</p> <p>In addition, the IESO is also considering the participation of repowered resources under future windows of the LT2 RFP. Expansions that are separately metered are already permitted under the LT2 RFP.</p>

B) Resource Eligibility – Long Duration Energy Storage (LDES)

Stakeholders provided mixed feedback on the Long Duration Energy Storage (LDES) technologies that should be eligible to participate in the LLT RFP. Some stakeholders suggested that eligibility should be restricted to commercially-proven technologies while others indicated that eligibility should be extended to include more novel technologies. Specific feedback is provided below:

Feedback / Common Themes	IESO Response
<p>The IESO should provide a long-term contracting option for emerging LDES technologies that is in addition to the grid innovation fund.</p> <p>One stakeholder indicated that any studies performed by the IESO to determine the suitability of emerging technologies should be done in parallel with the LLT RFP and should not preclude developers from proposing technologies that have not yet been deployed in Ontario.</p>	<p>The LLT RFP is intended to be a reliability-based procurement, as such the IESO is looking to contract with proven (and potentially late stage emerging) technologies to ensure the IESO can rely on their operation over the proposed 40-year contract term.</p> <p>The IESO is currently planning to complete further research on emerging LDES technologies and will be evaluating the benefits that longer duration storage technologies can provide to the grid as well as their overall viability in Ontario. Results of this research will inform opportunities that may arise for these technology types in the future.</p>
<p>The IESO should define commercially-proven technologies as those which have had successful pilot projects larger than 300kW and are located anywhere in the world.</p> <p>Stakeholders indicated that such an expansion in the definition of commercially-proven technologies would allow for the consideration of proven technologies that have not yet reached scale in Ontario.</p>	<p>The IESO is still evaluating eligible LDES technologies for the LLT RFP and encourages stakeholders to submit recommendations for eligible technology types along with any supporting documentation which demonstrates why such technology requires a long lead-time for development and that it can operate reliably over the term of the LLT contract (i.e., for 40 years).</p>

Feedback / Common Themes	IESO Response
<p>Eligible LDES technologies should be those which require longer development and construction lead times and not just those that can provide continuous electricity over a long period.</p> <p>Some stakeholders indicated that eligible LDES technologies should be those that have longer development and construction lead times (e.g. 6 years or more). One stakeholder indicated that LDES technologies with milestone CODs similar to lithium-ion storage should be excluded from the long lead-time RFP.</p>	<p>The IESO is proposing that the LLT RFP be open to resources with development timelines of 5-8 years; for LDES technologies this will be reflected in the list of eligible technology types.</p> <p>The LLT RFP is intended to competitively secure resources that are not able to participate in the LT2 RFP due to longer lead times. Resources with development timelines less than 5 years are encouraged to participate in other IESO procurements, such as the LT2 RFP.</p>
<p>The IESO should extend eligibility to hydrogen storage facilities.</p> <p>One stakeholder indicated hydrogen storage facilities operate similar to current biomass facilities contracted by the IESO.</p>	<p>The IESO is currently evaluating the benefits that hydrogen storage can provide to the electricity system through the Hydrogen Innovation Fund. The challenges and opportunities associated with hydrogen storage, including the various forms of production and re-electrification of hydrogen, still require further research and piloting.</p> <p>Proponents with hydrogen-based projects are encouraged to contact the Hydrogen Innovation Fund (hydrogeninnovationfund@ieso.ca).</p>

C) Term Length and Commercial Operation

Stakeholders were generally supportive of the IESO's proposed minimum duration requirements for commercial operation as well as proposed contract and milestone COD term lengths. Specific feedback is provided below.

Feedback / Common Themes	IESO Response
<p>The IESO should consider contract term lengths of 40 years or more.</p> <p>Stakeholders were generally supportive of the IESO's proposal to provide contract term lengths of 40 years. One stakeholder indicated that hydroelectric facilities should be provided with a 50-year contract term.</p>	<p>The IESO is currently proposing a contract term of 40 years for all successful resources under the LLT RFP, as a 40-year term provides alignment with other IESO contracts for long lead-time projects and recognizes the required capital costs and service life of assets participating in the LLT RFP. Contract terms greater than 40 years are not being considered and do not have an existing precedent in Ontario.</p>

Feedback / Common Themes	IESO Response
<p>The IESO should provide a contract term options that are less than 40 years for interested Suppliers.</p> <p>One stakeholder indicated that Suppliers interested in shorter term lengths (e.g. 10-15 years) should not be precluded from the LLT RFP.</p>	<p>The IESO is not considering contract term options, or flexible contract terms, that are less than 40 years. Suppliers seeking contract term lengths of 20 years are encouraged to participate in the LT2 RFP.</p>
<p>Stakeholders agreed with the IESO's proposal of a milestone commercial operation date (MCOD) of 8 years post contract award.</p>	<p>The IESO appreciates this feedback and will maintain the proposed approach to establishing the MCOD and look to share further details on the procurement milestones in the coming months.</p>
<p>The IESO should consider a Longstop Date of 30 months or more after MCOD.</p> <p>One stakeholder suggested a Longstop Date longer than the 18 months offered under the LT2 RFP to account for the inherently longer development timelines of LLT projects.</p>	<p>At this time, the IESO is proposing a Longstop Date consistent with the LT2 RFP (i.e., 18 months). To better consider this request, the IESO is looking for further information to understand why a longer period would be required given the extended development timeline of up to 8 years for long lead time resources.</p>
<p>The IESO should provide flexibility in the MCOD to account for connection-related delays.</p> <p>One stakeholder indicated that the Capacity contract should provide flexibility in the MCOD for when a transmitter or distributor requires more time to study, design or construct infrastructure needed to connect to the transmission or distribution system.</p>	<p>The extended development timeline is intended to provide flexibility to account for delays, including connection-related delays, and the Longstop Date provides additional flexibility where delays would cause a facility to begin commercial operation after the milestone date for commercial operation. Further, Suppliers may be eligible to invoke a Force Majeure event claim to the IESO in relation to delays or disruptions in the construction of any transmission or distribution system assets that are required for the Facility to Deliver Electricity that a Supplier could not have reasonably anticipated and is beyond the Supplier's reasonable control (see Section 11.3(e) of the LT2 contract).</p> <p>Beyond these provisions, the IESO is not considering additional flexibility related to connection related delays.</p>

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<p>The IESO should provide Early Operation Incentives.</p> <p>Stakeholders indicated that early operation incentives should be made available for projects that come in service in advance of the MCOD.</p>	<p>The IESO is not considering early operation incentives for the LLT RFP. RFI submissions have suggested that development timelines vary by technology type, with some technologies requiring development times less than eight years; in these instances, early operation incentives would provide an unfair advantage to technologies with shorter lead times, which is not the intent of the procurement. Additionally, early operation incentives are intended to incentivize projects reaching commercial operation early to meet system needs identified in those early years. The IESO has other available procurement mechanisms (e.g. LT2, MT) to meet system needs in the years before the proposed LLT RFP MCOD.</p>

D) Rated Criteria

Feedback / Common Themes	IESO Response
<p>The IESO should re-consider the award of rated criteria offered for locational considerations (i.e., avoidance of Prime Agricultural Areas and incentives for locating projects in Northern Ontario regions).</p> <p>Stakeholders also indicated that these rated criteria may not be effective as hydroelectric facilities are typically sited outside of prime agricultural areas and would likely be sited in Northern regions regardless of these incentives.</p>	<p>Thank you for your feedback. Similar to the LT2 RFP, 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.</p> <p>The IESO will share this stakeholder feedback with the Minister in its LLT RFP Report Back.</p>

Feedback / Common Themes	IESO Response
<p>The IESO should consider rated criteria for hydroelectric facilities located on managed waterways.</p> <p>One stakeholder suggested that projects on managed waterways can have less of an environmental impact than those on unmanaged waterways.</p>	<p>Thank you for your feedback. At this time, the IESO is currently not considering the use of rated criteria, in either the energy stream or capacity stream, to incentivize the development of hydro facilities on managed waterways.</p> <p>Rated criteria related to environmental considerations would only be included in the procurement should they reflect a policy direction from the Ministry of Energy and Mines.</p>
<p>The IESO should consider rated criteria for public (municipal) projects.</p> <p>Stakeholders indicated that rated criteria could be used to offset the reduced Federal Clean Technology Investment Tax Credit available to public projects (15%) as opposed to private projects (30%).</p> <p>Stakeholders also indicated that municipal projects provide capital investment in a local region with revenues staying within that region and being used to empower growth of local communities.</p>	<p>Rated criteria included in the procurement are typically based on government policy or preferred technical resource capabilities. Consideration of eligibility for tax incentives or credits is outside of the IESO's purview.</p>
<p>The IESO should increase the minimum required duration to greater than 8 hours and consider rated criteria for projects that are able to provide electricity for longer than the minimum.</p> <p>Many stakeholders suggested that the IESO should offer rated criteria for projects that could provide electricity for 8 hours or more. One stakeholder indicated that rated criteria should be used to incent projects that can provide electricity for a duration greater than 24 hours.</p>	<p>The IESO intends to maintain the minimum duration requirement of 8 hours, which is aligned with project proposals/technology types that were received through the RFI.</p> <p>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 specific system needs.</p>

E) Proposal and Contract Security

Feedback / Common Themes	IESO Response
<p>The IESO should set a low proposal security requirement, or alternatively, a proposal security requirement where amounts increase after project milestones are achieved.</p> <p>Some stakeholders recommended that Proposal Security should be set at \$35,000/MW with no minimum Proposal Security requirement as such a requirement would disproportionately impact smaller projects.</p> <p>Other stakeholders also suggested an alternative approach whereby a lower proposal security is required, which increases during the pre-COD period.</p>	<p>The IESO is considering modifications to the security requirements under the LT2 RFP, including:</p> <p>A proposal security amount of \$20,000/MW, with a minimum of \$350,000 and a maximum of \$15 million.</p> <p>A step up in security to \$35,000/MW (or the applicable minimum/maximum) at a pre-determined milestone during the pre-commercial operation period (e.g., 24 months post contract award)</p> <p>A step down in the security amount to \$20,000/MW post COD.</p>

F) Contract Design Considerations

Feedback / Common Themes	IESO Response
<p>The IESO should consider modifying the LLT Capacity Stream Must-Offer Obligation, including reductions to the number of Qualifying Hours or changes to State-of-Charge Limited percentage, in order to better reflect the lower round-trip efficiencies that may exist for some technology types.</p> <p>Some stakeholders indicated that the Must-Offer Obligation under the LT2 RFP will be challenging to meet for some technologies which require more time to replenish their state-of-charge.</p>	<p>The IESO appreciates this feedback and will review the Must-Offer Obligations in conjunction with upcoming market enhancements to evaluate whether changes are required to better reflect the future participation of LDES technology types that have limited round-trip efficiencies relative to other energy storage technologies.</p>

Feedback / Common Themes	IESO Response
<p>The IESO should include a mechanism (e.g. loan guarantees, price adders, taxation resource revenue sharing, infrastructure funds) to de-risk pre-development costs.</p> <p>Costs such as those for regulatory processes and provision of capacity for local communities (Indigenous or municipalities) to participate as project Proponents or partners should be de-risked by the IESO.</p>	<p>The IESO is not considering the introduction of new mechanisms to de-risk pre-development costs for Suppliers.</p> <p>Currently, the IESO provides funding to support equitable access to project partnerships and development for Indigenous communities embarking in energy projects through the IESO's Indigenous Energy Support Program (IESP). Interested Indigenous Communities are encouraged to contact the IESP team for further information by emailing iesp@ieso.ca.</p>
<p>For energy producing resources, the IESO should determine non-performance charges on a 5-year rolling basis.</p> <p>To better reflect the lifespan of these assets, a period longer than the 3-year period under the LT2 RFP should be utilized for the LLT RFP.</p>	<p>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.</p>
<p>The LLT Contract should include a provision that allows Suppliers to take extended outages without penalty.</p> <p>Suppliers should not be penalized when they take extended outages that are required for the safe and reliable operation of long-lived assets. Outages for redevelopments or upgrades should also be considered.</p>	<p>The IESO is currently considering allowing Suppliers to take one long-term outage for major maintenance activities during the contract term.</p> <p>The IESO is seeking additional information from stakeholders to further develop this concept, including:</p> <ul style="list-style-type: none"> • The nature of the work required as part of the long-term outage, • The maximum duration of the outage (e.g., 6 months), and • When the outage is expected to occur over the course of the contract term (e.g., year 20).

Feedback / Common Themes	IESO Response
<p>The IESO should consider the following for the Enhanced PPA under the LLT RFP Energy Stream:</p> <ul style="list-style-type: none"> a) For run-of-the-river hydroelectric facilities: monthly imputed production price should be calculated as the lower of (i) generation-weighted average price (ii) simple average DA-LMP b) Excess deemed market revenues should be clawed back on an annual basis only when the sum of all monthly payments are negative over a year c) Grid-Based Unavailability construct from LT2 RFP should be adopted for LLT RFP. 	<ul style="list-style-type: none"> a) The IESO is currently evaluating its approach to determining the monthly imputed production price for run-of-the-river hydroelectric facilities and will be providing a proposal in the coming months. b) The IESO is not considering a change from the monthly payment approach for excess deemed revenues utilized as part of the Enhanced PPA design under the LT2 RFP. c) The IESO intends to include the Grid-Based Unavailability concept from the LT2 RFP as part of the LLT RFP.
<p>The IESO should provide compensation for additional value streams for hydroelectric facilities.</p> <p>Stakeholders indicated that the E-PPA contract for hydroelectric resources should specifically value energy, capacity and reliability services.</p>	<p>The IESO will not be providing compensation for additional value streams under the LLT Energy Stream Contract. The Enhanced PPA has been designed to cover the revenue requirements necessary to construct a hydroelectric facility and operate it for the duration of the contract term.</p> <p>Suppliers may also be able to participate in other IESO markets (e.g., Operating Reserve) in order to provide additional value to the grid and receive additional compensation.</p>

G) General

Feedback / Common Themes	IESO Response
<p>The IESO should set a procurement target of at least 1000 MW for the long lead-time capacity stream, with the ability to contract more if beneficial.</p> <p>Some stakeholders suggested that such a procurement target would provide contracting opportunities for both small and large projects.</p>	<p>At this time, the IESO expects the procurement target for the capacity stream to be approximately 600 MW.</p> <p>Targets will be finalized closer to procurement launch and are subject to change based on updates to the demand forecast, results of other procurements (e.g., LT2 RFP), additional market insights, and/or formal government direction.</p>

Feedback / Common Themes	IESO Response
<p>The IESO should provide stakeholders with certainty that it intends to proceed with the long lead time RFP.</p> <p>One stakeholder indicated that the IESO should provide certainty that it intends to proceed with the long lead-time procurement as such certainty will support the investment of capital needed to develop proposals.</p>	<p>The IESO acknowledges that developers are looking for certainty regarding the LLT RFP. The IESO's report back to the Ministry of Energy and Mines will include proposed timelines.</p>
<p>The IESO should reconsider any potential approach to utilizing a price ceiling when evaluating Proposals.</p> <p>Some stakeholders indicated that the IESO previously used a weighted-average price exclusion approach under the LT2 RFP when evaluating LLT RFP Proposals.</p>	<p>As indicated in the April 23, 2025 stakeholder engagement webinar, the IESO is considering the use of a mechanism to ensure cost efficiency of projects that participate in the LLT RFP. The exact mechanism that will be used is still to be determined. Fundamentally, there is less certainty on the costs of new technology types that may be procured under the LLT RFP and the IESO views it as appropriate to consider a price ceiling in this context.</p>
<p>The IESO should provide greater clarity on the deliverability process under the LLT RFP and how capacity will be allocated when considering the LT2 and Local Generation Program</p> <p>Stakeholders supported 1:1 deliverability-focused consultations but indicated that greater clarity is needed from the IESO on how transmission capacity will be allocated when considering other IESO procurements.</p> <p>Some stakeholders also requested clarity on the deliverability guidance that would be provided by the IESO for the LLT RFP, indicating that deliverability guidance documents from window 1 of the LT2 RFP would not be reflective of transmission conditions in 2034.</p>	<p>The IESO is considering other generation procurements, such as the LT2 RFP, when developing the deliverability process for the LLT RFP and will be providing additional clarity on the deliverability process for the LLT RFP in the coming months.</p> <p>In general, the transmission will be utilized first by procurement programs that respond to an earlier reliability need and, consequently, projects with an early commercial operation target date. For clarity, if a project is contracted under an earlier procurement stream (e.g. LT2 Window 1), the capacity it uses would be unavailable for later procurements (e.g. the LLT RFP). This would be reflected in the deliverability guidance that is issued for the LLT RFP.</p>

Feedback / Common Themes	IESO Response
<p>The IESO should reserve transmission capacity in Northern Ontario for the LLT RFP.</p> <p>Stakeholders indicated information from the LLT RFI should be used to establish the amount of transmission capacity that should be set aside.</p>	<p>At this time, the IESO does not intend to reserve any transmission capacity for prospective projects that were submitted through the LLT RFI.</p> <p>If a project is contracted under an earlier procurement (e.g. LT2 Window 1), the capacity it uses would be unavailable for later procurements (e.g. the LLT RFP). This would be reflected in the deliverability guidance that is issued for the LLT RFP.</p> <p>Proponents are encouraged to participate in the Bulk Planning engagements, in order to provide project information to the IESO as early as possible, which may be considered as part of future transmission enhancements.</p>
<p>The IESO should provide greater clarity for its approach to tariffs.</p> <p>One stakeholder indicated that the IESO should provide a specific contractual commitment in the form of compensation for the portion of equipment costs subject to a tariff.</p> <p>One stakeholder indicated that this approach would be better than a potential two-stage proposal submission approach as a two-stage approach would introduce the potential of gaming after financial close.</p>	<p>Given the current uncertainty and risk posed by evolving global trade conditions and the introduction of tariffs, the IESO has introduced an adjustment for Post Proposal Applicable Tariffs under the LT2 RFP.</p> <p>Inclusion of this, or any other similar mechanism, under the LLT RFP will depend on the tariff risks that exist at the time of procurement launch.</p>

Feedback / Common Themes	IESO Response
<p>The IESO should consider offering long lead-time resources a negotiated, cost of service agreement with an annual revenue requirement paid in equal installments that are sufficient to fully recover projected annual operating and capital costs.</p>	<p>The LLT RFP is intended to competitively secure resources that are not able to participate in the LT2 RFP due to longer lead times. The LLT Contracts will be developed using the LT2 Contracts as a starting point, which have been structured to incentivize resources to participate in the IESO-Administered Markets, with risks and incentives balanced between the Supplier and the IESO.</p> <p>The IESO does not intend to change the structure of the contracts or fundamentally change the way in which payments are calculated. Proponents should submit a proposal price that reflects their project's capital costs and projected operating costs over the duration of the contract term.</p>