Stakeholder Feedback and IESO Response

Long Lead-Time Request for Proposals (LLT RFP) – November 28, 2025

Following the October 21 2025, LLT RFP Engagement Webinar, the Independent Electricity System Operator (IESO) invited stakeholders to provide feedback on the following design items: Resource Eligibility, Minimum Project Size, Team Member Experience, Mid-Term Extended Outages, Regulation Service Readiness, Optional Termination, and other procurement 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. Capitalized terms used in the IESO responses below not otherwise defined herein, have the meaning given to such terms in the draft LLT(e) RFP, LLT(e) Contract, LLT(c) RFP or LLT(c) Contract (each, as applicable) posted to the Long Lead-Time RFP Webpage.

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A) Resource Eligibility- Eligible LDES Technologies

Stakeholders were generally supportive of the proposed eligible LDES technologies; however, some questioned the criteria used to select these technologies and requested modifications to expand participation to other technology types. Specific feedback is cited below.

Feedback / Common Themes	IESO Response
The IESO should explicitly clarify that the retrofitting or modernization of existing conventional hydropower assets to incorporate pump-back capability also qualifies as PSH: • Upgrading existing hydroelectric facilities can deliver long-duration storage benefits more cost-effectively and with reduced environmental and development risk compared to greenfield builds.	The retrofitting or modernization of existing conventional hydroelectric assets to incorporate pump-back capability is considered by the IESO as a redevelopment or upgrade. As indicated at the November 19 Stakeholder Engagement Webinar, the IESO is currently proposing that hydroelectric redevelopments will not be eligible to participate in the LLT RFP, as the redevelopment timelines are highly variable, indicating that a long lead time may not be needed. In addition, the IESO is seeking incremental new energy producing resources through the LLT RFP to meet identified system needs at this time. As such, the IESO believes that redeveloped hydroelectric facilities may be better suited to the LT2 RFP or other future IESO procurements.

Feedback / Common Themes	IESO Response

The IESO should provide clarity on the process by which the IESO is selecting Eligible LDES technologies, the IESO should either:
• Publish clear eligibility requirements without pre-qualifying specific technology types. Allow any technology meeting requirements to participate, and then assess compliance during evaluation; or
• Provide clear eligibility requirements and a replicable path for technologies to become pre-qualified, including:
  ○ What validation IESO needs.
  ○ Scope of work for independent Engineer (IE).
	The IESO has established eligibility for LDES technologies under the LLT RFP based on technologies that:
	i. have demonstrated sufficient maturity to meet Ontario's system needs (i.e., those that have been or are soon to be deployed at a commercial scale),
	ii. require long development lead times, and
	iii. have an expected operational life of 40 or more years.
	Emerging technologies that are either in early development or proof-of-concept stages have been excluded from participating in the LLT RFP due to the uncertainties surrounding the ability of these technologies to meet future reliability needs.

The IESO should not allow hydroelectric resources to participate in the LLT RFP.	Hydroelectric generation facilities, together with nuclear generation facilities, form the backbone of Ontario's generation fleet, providing reliable cost-effective non-emitting energy. Hydroelectric resources remain critical for meeting Ontario's future energy and capacity needs and will remain eligible to compete in the LLT RFP and future IESO procurements.

B) Resource Eligibility – Class II Technologies

Specific feedback is provided below.

Feedback / Common Themes	IESO Response
The IESO should include compressed gas energy storage as a Class I resource: • Alternatively, the IESO should provide specific Class I eligibility criteria for proponents to demonstrate compliance. • Excluding Compressed Gas Energy Storage solely on the basis of unproven lead times or lifetimes appears inconsistent with the IESO's stated evaluation approach because the IESO has identified liquid air energy storage and pumped thermal energy storage as long-lead and 40+ year lifetime technologies – while acknowledging that some selected technologies do not have proven lead times and lifetimes.	The IESO has not included compressed gas energy storage as a Class I or II technology under the LLT(c) RFP due to its expected development lead time of less than five years. Technologies with a development lead time of five years or less are eligible to participate under the capacity stream of the LT2 RFP.
The IESO should increase the 100MW cap on Class II Technologies: • The 100 MW cap may preclude several of the most cost-effect projects from selection • Given the minimum 50 MW project size requirement, the cap will result in only 1-2 Class II project being selected, even if multiple Class II projects rank amongst the most cost-effective bids.	The IESO is considering increasing the limit on Class II LDES Technologies from 100 MW to 200 MW. Any updates will be reflected in a future draft of the procurement documents. The IESO has proposed a limit on the amount of Class II LDES Technologies that can be procured in order to minimize the delivery and performance uncertainties associated with less proven technologies.

C) Minimum Project Size

Some proponents were supportive of the 50MW minimum project size, while some suggested a lower minimum project size would be beneficial. Specific feedback is provided below.

Feedback / Common Themes	IESO Response
The IESO should lower the minimum project size; • Suggested project size minimums were between 1 - 40MW. • Would allow projects to maintain commercial scale while enabling smaller projects to leverage siting opportunities that cannot accommodate larger projects due to footprint constraints.	The IESO is considering reducing the minimum project size requirement for Class I LDES Technologies participating in the LLT(c) RFP from 50 MW to 10 MW. Any updates will be reflected in a future draft of the procurement documents.
The minimum project size of 50 MW should not apply to pumped storage; • Pumped hydro storage is a mature technology, not a pilot • Its cost efficiency depends on site conditions rather than scale, and smaller projects can be competitive. • Allowing smaller pumped hydro projects would diversify participation without crowding out other resources.	The IESO acknowledges this feedback and will be providing a final proposal on minimum project sizes for the LLT RFP at the December Stakeholder Engagement Webinar. As stated above, the IESO is considering reducing the minimum project size requirement under the LLT(c) RFP to 10 MW.

D) Minimum Duration and Rated Criteria

Stakeholders expressed support for using Rated Criteria to value duration, and many also indicated support for increasing the minimum duration requirement. Specific feedback is provided below.

Feedback / Common Themes	IESO Response
The IESO should increase the minimum duration requirement; • Minimum duration should be increased to at least 10 hours. • A higher threshold better aligns with Ontario's projected needs and avoids the risk of later retroactive changes. • Many jurisdictions globally including California and New South Wales have increased their duration requirement to similar (and higher) levels.	The IESO continues to propose a minimum duration of 8 hours to align with the IESO's analysis to date of the value that longer duration resources can provide in Ontario. The IESO is continuing to explore the use of rated criteria to incentivize resources that can provide continuous injections for a period greater than eight (8) hours with a maximum number of points awarded to those resources that can inject for twelve (12) hours or more. The IESO will be bringing forth its proposal at a future engagement session.
The IESO should allow proponents to bid in multiple price-duration bids; • Approach would offer the IESO a broader set of cost and performance options and may be more effective than relying solely on rated criteria to drive duration outcomes.	The IESO is not considering an approach that allows Proponents to bid in multiple price-duration bids. However, the IESO continues to consider the application of rated criteria to incentivize longer durations.

E) Team Member Experience

There was mixed feedback regarding Team Member experience, with several proponents citing challenges in meeting the same-technology requirements and concerns that the definition of a Same-Technology Qualifying Project is too restrictive for newer technologies. Specific feedback is provided below.

Feedback / Common Themes	IESO Response
Proponents should be required to demonstrate Team Member Experience with a record of at least two (2) Qualifying Projects. • Hydropower is more complex and impactful on the ecosystem and must be properly planned and mitigated.	The IESO believes that requiring team members to demonstrate experience with one Same Technology Qualifying Project in each Team Member Experience category for the LLT(e) RFP and in at least the Planning and Development category for the LLT(c) RFP provides an appropriate minimum experience requirement in these circumstances.
Minimum size threshold for a Qualifying Project should be 1 MWh instead of 1 MW; • The change would better reflect the storage focus of this procurement	The IESO will not be changing the size threshold for a Qualifying Project from a power-based threshold to an energy-based threshold. The threshold is established to demonstrate experience building projects of a relevant scale to the projects that are being procured. The MW size of a project is more closely related to the development, permitting/approvals, and construction requirements of a project.

Feedback / Common Themes	IESO Response
Experience with conventional hydroelectric facility should qualifying as same technology experience for pumped storage; • Pumped storage is a direct variant of hydroelectric generation, and the relevant development expertise is transferable. • Few domestic projects exist in Canada, and most are owned by government utilities that do not share team members. • Major projects in development for the purposes of participating in the LLT RFP could create conflicts in securing qualified team members.	The IESO acknowledges the feedback and the challenges identified and remains open to considering Team Member Experience requirements that provide greater flexibility for prospective Proponents, while ensuring sufficient developer expertise. An updated proposal reflecting these considerations will be presented during an upcoming Stakeholder Engagement session.

The IESO should revert to technology-agnostic criteria;
• Same technology experience criteria are unrealistic for technologies like compressed air and pumped hydro, which have few recent global projects.
• Proponents already have strong incentives to include technology experts for financing and risk management.
• If technology-specific experience is required:
  • Separate it from general project experience.
  • Allow related experience (e.g., compression/storage for non-electricity purposes).
  • Expand eligible jurisdictions (include all of Europe).
• Alternatively, define experience by professional qualifications (geology, drilling, compression) rather than project history.
	The IESO remains open to considering Team Member Experience requirements that provide greater flexibility. Same technology requirements are being proposed to ensure proponents possess sufficient expertise in developing projects that address the IESO's reliability needs. An updated proposal reflecting these considerations will be presented during an upcoming Stakeholder Engagement session.

F) Must Offer Obligations

Stakeholders expressed support for expanding Must Offer Obligations under the LLT(c) Contract but highlighted challenges that the IESO should consider. They also emphasized that Suppliers should be fairly compensated for their increased availability. Specific feedback is provided below.

Feedback / Common Themes	IESO Response
Contractual changes are needed if Qualifying Hours are expanded to include weekends and holidays and Must Offer Obligations are expanded to include a real-time offer obligation; • Changes would limit charging windows, increasing risk of energy-constrained operation. • The IESO should add contractual protections against non-performance charges when dispatch restricts charging. • The IESO should allow charging during Qualifying Hours in Real-Time market when necessary.	The IESO is still evaluating the expansion of Qualifying Hours and the addition of a real-time offer requirement as part of the Must Offer Obligations included in the LLT(c) Contract and will be bringing forth an updated proposal at an upcoming Stakeholder Engagement Webinar. As part of its evaluation, The IESO will consider enhancements that are being considered under the Enabling Resources Program (ERP) that will enhance the IESO's visibility of resource capabilities at the time of scheduling/dispatch.

G) Contract Capacity

Many proponents indicated that their proposed facilities would not experience monthly or seasonal capacity deviations. However, some noted that pumped storage hydro facilities may have contract capacity variations based on water availability. Despite these observations, there was broad support for maintaining the seasonal structure for Contract Capacity as outlined in the LT2 Capacity Contract and the draft LLT(c) Contract.

H) Draft Documents

Most stakeholders did not provide feedback on the draft documents, while some indicated they required additional time to review the draft LLT(c) RFP and Contract and would provide feedback at a later date.

I) Mid-Term Extended Outages

Stakeholders appreciated the introduction of a Mid-Term Extended Outage provision; however, many noted that the current approach is too restrictive and suggested that suppliers would benefit from additional flexibility. Specific feedback is provided below.

Feedback / Common Themes	IESO Response
The IESO should provide more flexibility for Suppliers to take Mid-Term Extended Outages; • One stakeholder suggested allowing Mid-Term Extended Outages to start any time after year 10 of the contract, at the proponent's discretion. While another suggests there should be no restrictions. • One stakeholder suggested allowing multiple outages to be taken over the 40-year term, which add up to a total of 12 months or less. This will provide flexibility to schedule outages during low-demand periods (e.g., winter) and avoid peak months like summer.	The IESO will consider additional flexibility related to taking Mid-Term Extended Outages and will present an updated proposal at an upcoming stakeholder engagement session.
The IESO should add back in the language used for Non-Electricity Storage Facilities (i.e., Natural Gas resources) around Annual Planned Maintenance – for example in sections 15.3 (b), Exhibit E, and Exhibit L; • This language is critical as mechanical storage solutions such as CAES and Pumped Storage may require downtime to complete routine annual maintenance, similar to natural gas plants to ensure safety and optimum operation. • This language allows LLT LDES proponents the capability to perform their annual planned maintenance outages without risking non-performance charges.	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.

J) Regulation Service Readiness

Proponents were generally not supportive of the IESO's proposed mandatory regulation service readiness requirement, suggesting that the IESO should instead incentivize regulation readiness using rated criteria. One proponent indicated that they did not anticipate that incorporating regulation services into their projects would have an impact on development timelines and that associated costs would be minimal. Specific feedback is provided below.

Feedback / Common Themes	IESO Response
Regulation service readiness is better suited as a rated criteria category; • Rated criteria is more appropriate for differentiating and prioritizing systems that deliver the greatest system value.	The IESO is still evaluating its approach to a regulation readiness requirement under both the LLT(e) RFP and LLT(c) RFP including whether the requirement will be mandatory or incentivized through rated criteria. The IESO will present an updated proposal that includes consideration of stakeholder feedback in the coming months.
The IESO should not make regulation service readiness mandatory for hydroelectric facilities that are run-of-the-river or have a nameplate capacity less than 20 MW; • Run of river systems cannot hold back water; unused water is lost to non-generating passages. • Seasonal constraints (e.g., navigation period May–October) and low-flow conditions limit flexibility, particularly for smaller hydroelectric facilities.	As outlined in the November 19 Stakeholder Engagement Webinar, under the LLT(e) RFP, the IESO is considering the regulation service readiness requirement for hydroelectric facilities that have a maximum Contract Capacity greater than 20 MW, as these resources are better able to provide a 20 MW range (±10 MW of regulation services) above their minimum loading point.

Feedback / Common Themes	IESO Response
The IESO should provide greater clarity on incentives and potential penalties for non-compliance with regulation readiness provisions; • Without this clarity there is uncertainty on financial modeling and environmental permitting impacts. • Operational requirements tied to permits and consultations (Indigenous communities, municipalities, public) will only be clear post-contract award, making planning difficult before the Dec 2026 RFP deadline.	The IESO appreciates this feedback and will consider charges that would apply for failure to comply with regulation readiness provisions when presenting an updated proposal in the coming months.

K) Optional Termination

Stakeholders were largely opposed to optional termination, citing increased risk to suppliers, negative impacts on competition, lack of clarity, and overarching concerns that projects would be unfeasible under such a provision. Specific feedback is provided below.

Feedback / Common Themes	IESO Response
Optional Termination creates major risk for LLT projects; • Long Term projects are highly capital-intensive with long development timelines (up to 4 years, hundreds of millions pre-NTP). • Creates financing uncertainty for projects with high upfront costs and long timelines. • Raises cost of capital which results in higher costs for ratepayers. • Current proposal suggests termination without cause and only partial cost coverage—introducing unmanageable risk late in procurement.	The IESO acknowledges stakeholder feedback received regarding the potential to include an optional termination provision in the LLT Contracts. After reviewing the potential risks and impacts raised by stakeholders, and weighing those against potential benefits to Ontario's ratepayers, the IESO has decided **not to include** optional termination as part of the LLT Contracts to encourage maximum competition, maintain incentives for Indigenous participation, and help ensure cost effective procurement outcomes. This change will be reflected in the next version of draft contracts that will be issued in the coming months.

Feedback / Common Themes	IESO Response
Option termination negatively effects competition and is inconsistent with previous procurements. • Discourages investment and reduces qualified bids in a modest-scale procurement (600–800 MW). • Makes Ontario less attractive compared to jurisdictions offering greater certainty (e.g., California, NSW). • Clause absent in prior procurements (E-LT1, LT1, LT2); should be removed for consistency. • Delivery risk already addressed through completion security—additional termination right unnecessary.	Please see above.
The optional termination timelines are incompatible with development timelines; • Hydro projects need ~8 years post-award to meet MCOD; meeting NTP within 2–3 years is unrealistic. • Consider an earlier milestone than NTP for termination rights to reduce exposure.	Please see above.
The IESO should provide fair compensation for termination suggestions included; • 3–5x development and construction costs, including financing and owner costs. • All development costs plus a standard rate of return. • The IESO should define eligible development expenses for reimbursement if IESO cancels before NTP.	Please see above.

Feedback / Common Themes	IESO Response
The IESO should provide greater clarity on optional termination; • Proponents require detailed rationale and conditions for exercising termination rights. • Clarify conditions for IESO termination before NTP if Supplier complies with other contract terms.	Please see above.
This clause effectively excludes Indigenous communities from LLT projects, contrary to provincial objectives; • First Nations rely on financing for equity contributions; termination risk makes projects unbankable. • Optional Termination could leave communities with multi-million liabilities and no revenue stream. • Adds risk that deters Indigenous equity partners with limited capital, undermining partnership goals. • The IESO should provide 100% equity return for Indigenous investments upon cancellation.	Please see above.

L) Environmental Attributes

There was limited feedback on the proposed treatment of environmental attributes; however, most stakeholders were of the opinion that, consistent with the LT2 contract, all environmental attributes should remain with the Supplier. Specific feedback is provided below.

Feedback / Common Themes	IESO Response
The Supplier should own the Environmental Attributes for the entire duration of the contract; • This treatment would be consistent with the LT2 Contract. • Introducing a sharing mechanism during the latter half of the 40-year LLT contract term would add unnecessary complexity.	As presented in the October 21 Stakeholder Engagement Webinar, to manage uncertainty related to the value of environmental attributes into the 2050s, the IESO continues to propose a sharing of revenues from Environmental Attributes after year 20 of the contract term. Please review the LLT(e) Contract or LLT(c) Contract for full details on how this is expected to be implemented.

M) General Feedback

Feedback / Common Themes	IESO Response
The IESO should increase the total procurement target for the LLT capacity RFP; • Scale technologies (e.g., CAES, pumped hydro) are most competitive at large sizes. • Strong procurement signal to justify upfront development costs and garner greater interest in the procurement.	The IESO has proposed a procurement target of 600-800 MW for the LLT(c) RFP with the intention of balancing system needs and competition; final targets will be informed by government direction.
Hydropower proponents should be required to monitor, measure and report their GHG emissions and purchase carbon credits.	The IESO appreciates this feedback. However, the monitoring, measuring and reporting of GHG emissions and purchase of carbon credits (or Clean Energy Credits) is the purview of the Provincial Government.

Feedback / Common Themes	IESO Response

The Reserve Price mechanism proposed by the IESO for the LLT procurement introduces an artificial and unprecedented cap on contract pricing;
• Risks undervaluing LDES due to incomplete recognition of benefits.
• The purpose of this procurement is to allow similar technologies to compete like-for-like. Using contract prices from other technologies with shorter life spans and different energy characteristics seems to counter that.
• LDES has benefits beyond cost such as:
  • 50+ year lifespan with no degradation.
  • Critical grid services (inertia, voltage support, system strength).
  • Local economic development, transmission alternatives, and high domestic content.
• The IESO should publish the reserve price calculation methodology for transparency
• The IESO should allow second-round negotiations if bids exceed Reserve Price to maintain competition and avoid premature termination.
	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 life-times, will be considered in the determination of a reserve price.

The IESO should use % threshold of capacity/energy targets within the capacity/energy streams (e.g. 80%) as the basis for determining which projects are initially successful.	The IESO is proposing procurement targets that are aligned with the level of competition expected in both the LLT(e) RFP and the LLT(c) RFP. Combined with a reserve price, the IESO believes that this procurement design will allow the most cost-effective resources to be procured absent the introduction of an additional threshold as part of evaluation.