Feedback Form

Long Lead-Time RFP – October 21, 2025

Feedback Provided by:

Name: Andrew Thiele

Title: Sr. Director Policy and Government Affairs

Organization: Energy Storage Canada

Email: [redacted]

Date: November 4 2025

To promote transparency, feedback submitted will be posted on the Long Lead-Time engagement page unless otherwise requested by the sender.

- ☐ **Yes – there is confidential information, do not post**
- X **No – comfortable to publish to the IESO web page**

Following the October 21st Long Lead-Time engagement webinar, the Independent Electricity System Operator (IESO) is seeking feedback from stakeholders on the items discussed. The presentation and recording can be accessed from the LLT RFP Stakeholder Engagement Webpage.

Note: The IESO will accept additional materials where it may be required to support your feedback. When sending additional materials, please indicate if they are confidential.

Please submit feedback to engagement@ieso.ca by November 4, 2025.

Section 1: LLT Capacity RFP and Contract

Resource Eligibility - Eligible LDES Technologies

Do you have any feedback on the proposed definitions of Eligible LDES Technologies?

ESC supports the inclusion of pumped storage (PSH) within the Eligible LDES Technology category, and echoes stakeholder recommendations that the definition be broadened beyond purpose-built greenfield facilities. In line with comments from the OWA, ESC suggests that in addition to new PSH developments, the IESO should explicitly clarify that the retrofitting or modernization of existing conventional hydropower assets to incorporate pump-back capability also qualifies as PSH. This clarification is important, as upgrading existing hydroelectric facilities can deliver long-duration storage benefits more cost-effectively and with reduced environmental and development risk compared to greenfield builds.

Common and proven conversion approaches include:
- Adding a pump-turbine to an existing generating station;
- Installing a standalone pump station to return tailrace water to the headpond;
- Replacing existing turbine-generator units with reversible pump-turbine equipment.

These pathways leverage existing infrastructure, transmission access, and water management systems, and should be explicitly recognized within the eligibility definition to ensure Ontario captures the full range of viable PSH options.

Resource Eligibility - Class II Technologies

Do you have any feedback regarding eligible Class II Technologies?

Note - If you are providing suggestions for additional technologies that the IESO should consider, please provide further information, including but not limited to: details related to level of technology readiness, expected project development timelines, permitting pathway, and project lifetime.

Do you have any feedback related to the proposal to procure a maximum of 100 MW from Class II technologies?

Energy Storage Canada supports the inclusion of emerging long-duration technologies as Class II, but recommends several adjustments to ensure the procurement remains competitive and technology-neutral.

Cap on Class II Procurement

ESC recommends removing the 100 MW cap or increasing it to at least 300 MW. With a 50 MW minimum project size, the current cap could limit participation to a single project—even if multiple Class II bids are more cost-effective than Class I submissions. A larger scale would also support cost reductions and deployment learning.

Pathway to Class I

ESC requests clarity on whether Class II or unclassified technologies may be reclassified as Class I over time, once commercial maturity and development timelines are validated.

Verification Requirements

ESC asks that the IESO provide guidance on how Class II technologies will verify development lead times and project lifetimes, including expectations for independent engineering review.

Additional Eligible Technologies

ESC recommends adding compressed gas (e.g., CO_2-based storage) to Class II, subject to the same 5-year verification requirements as other emerging technologies.

Minimum Project Size

Do you have any feedback related to the proposed minimum project size requirement of 50 MW?

ESC recommends that the IESO set the LLT procurement capacity stream target at a minimum of 1,000 MW to ensure Ontario can attract and deploy the most competitive long-duration energy storage (LDES) solutions including both Class I and Class II technologies. Larger-scale projects offer significant cost efficiencies and reliability benefits but require substantial upfront investment—only feasible with a strong and credible commercial signal. A higher target enables broad participation from both large and small projects, while still allowing the IESO flexibility to underprocure if needed. A lower target, even with the possibility of overprocurement, sends a weak signal that risks deterring private investment.

Globally, jurisdictions are responding to growing reliability needs with ambitious LDES procurement targets. New South Wales expanded its target from 16 GWh to 40 GWh, the UK's Cap and Floor program saw 7x oversubscription, and California forecasts a need for 20 GW of LDES by 2036. These examples show that strong procurement signals drive market engagement and lower costs. Ontario now has a timely opportunity to align with global best practices and secure reliable, cost-effective storage solutions through a well-calibrated LLT procurement.

We also recommend the IESO reduce the minimum size to something closer to the LT2(c-1) solicitation that still indicates commercial scale (20MW, 40MW, etc). Projects that are in the less than 50MW range but are meaningful commercial size projects may be able to take advantage of siting opportunities that larger projects can't otherwise utilize due to footprint.

Minimum Duration and Rated Criteria

Do you have any feedback regarding the potential use of rated criteria to incentivize longer durations of up to 12 hours?

Do you have any feedback/information to share related to cost impacts associated with increasing duration from 8 to 12 hours to help inform weighting of the rated criterion, should it apply?

Energy Storage Canada supports the IESO's proposed use of rated criteria to incentivize longer-duration storage. Rated criteria should be linked to clearly identified system needs, economic impacts, and environmental or social benefits—rather than cost alone—as longer-duration assets provide distinct value such as sustained support through extended peak events and heat waves.

ESC also recommends that the minimum duration requirement for long lead-time LDES resources be increased to at least 10 hours. Given long development timelines and a 40-year contract horizon, a higher threshold better aligns with Ontario's projected needs, which IESO analysis places in the 8–12 hour range, and avoids the risk of later retroactive changes.

To provide flexibility and maximize competitive tension, ESC suggests that proponents be allowed to submit multiple price-duration bids (e.g., 8, 10, and 12 hours). This approach offers 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.

Team Member Experience

Do you have any feedback regarding the IESO's proposed changes to the Team Member Experience requirements?

Energy Storage Canada appreciates the IESO's updates to Team Member Experience requirements and recommends two refinements for alignment with long-duration technologies. First, the minimum size threshold for a Qualifying Project should be based on energy (1 MWh) rather than power (1 MW), reflecting the storage focus of this procurement. Second, for pumped storage projects, the requirement to have developed a "same technology" project should include conventional hydroelectric facilities, as pumped storage is a direct variant of hydroelectric generation and the relevant development expertise is transferable.

Must-Offer Obligations

Do you have any feedback regarding the IESO's proposals to: (a) expand Qualifying Hours to include additional hours on weekends and holidays and (b) introduce Real-Time Must-Offer Requirements

The IESO is also looking to understand how these changes may impact your proposed project (e.g., cost, operations)?

Energy Storage Canada supports expanding Qualifying Hours to include weekends and holidays, recognizing the value of long-duration resources as daily capacity backstops. However, this expansion creates practical constraints on when storage assets can recharge, increasing the risk of energy-constrained operation. ESC therefore recommends contractual protections to prevent non-performance charges when dispatch during expanded Qualifying Hours limits charging opportunities, and that proponents be permitted to charge during Qualifying Hours in the Real-Time market when necessary.

Regarding Real-Time Must-Offer requirements, ESC requests further clarity and similar contractual safeguards in energy-constrained scenarios. ESC also notes that the proposed IESO termination right for development-stage projects may create substantial financing challenges and result in higher cost of capital for ratepayers. If the IESO intends to retain this right, any termination payment should fully compensate all development costs plus a reasonable return. To support accurate pricing prior to bid submission, ESC further recommends an LNTP milestone to complete detailed engineering/FEED, as has been supported for comparable Ontario projects.

Contract Capacity

Do you have any feedback regarding the removal of the option to reduce contract capacity?

Do you expect your contract capacity to differ on a monthly or seasonal basis?

No comment

Draft Documents

Do you have any feedback to share in relation to the draft RFP and Contract that have been posted to the IESO website?

No commment

Section 2: Additional Design Considerations (applicable to both Energy and Capacity streams)

Mid-Term Extended Outages

Do you have any comments on the IESO's proposal related to Mid Term Extended Outages?

Please provide information to support your feedback or any suggested revisions to the proposed approach including, but not limited to, nature, timeline and frequency of expected Mid-Term Extended Outages.

No additional comment

Regulation Service Readiness

Do you have any feedback regarding the proposed Regulation Service Readiness Requirements?

Please provide information potential cost and/or development timeline impacts that would apply to have the facility be "regulation ready" and any other information the IESO should consider when exploring this mandatory requirement/rated criterion.

No additional comment

Optional Termination

Do you have any feedback regarding the IESO's proposed Optional Termination provision and/or the proposed concept of a NTP Milestone Date?

Do you have any feedback/information to share regarding how other jurisdictions manage the uncertainty related to developing long lead time resources?

ESC is deeply concerned that the IESO's proposed Optional Termination provision poses a serious threat to the viability of Long Lead-Time (LLT) LDES projects. These projects require significant upfront development capital and carry longer timelines and higher risk profiles than conventional renewables or short-duration storage. The introduction of termination uncertainty makes it extremely difficult to secure financing, particularly equity investment, which demands a clear and stable commercial framework. Even if financing were possible under such conditions, the increased risk would raise the cost of capital—ultimately resulting in higher costs for Ontario ratepayers.

This provision also risks reducing competition in the LLT procurement. Unlike large-scale procurements (2–3 GW) where the market may absorb such risks, the LLT procurement is relatively modest in scale (600–800 MW). Adding termination uncertainty discourages serious investment and may lead to fewer qualified bids. In a global energy transition context, jurisdictions offering greater certainty—such as California and New South Wales—are more attractive to investors, putting Ontario at a competitive disadvantage.

ESC further notes that this clause was absent from recent IESO procurements such as E-LT1, LT1, and LT2. Consistency would suggest removing this clause across all procurements. Moreover, given the expected system retirements and refurbishments in the mid-2030s, LLT assets could continue to provide valuable grid services well beyond their initial timelines. If the concern lies in delivery risk, existing completion security mechanisms already provide sufficient protection without introducing additional uncertainty.

Importantly, this provision also creates a barrier to Indigenous equity participation. Indigenous partners often have limited capital and must prioritize projects with a high likelihood of reaching commercial operation and generating long-

term revenue. The Optional Termination clause introduces a level of risk that may cause these partners to shift focus to more stable opportunities, undermining efforts to build meaningful Indigenous partnerships in LLT development.

If the IESO determines that it must retain this provision, ESC recommends that it be paired with a clear and fair compensation mechanism—such as a multiple (e.g., 3–5x) of development and construction capital spent to date, including financing and owner costs. This approach would help mitigate risk and align Ontario's procurement practices with international standards, where termination provisions are either absent or structured to protect developers from undue financial harm.

Proponents require much more detailed information on the IESO's proposal and rationale to include two-way optional termination provision in the LLT contracts and in particular the basis upon which the IESO could exercise such provision absent some form of non-compliance with contractual provisions.

As presently described, it would appear that the provision would enable the IESO to terminate the contract without cause and yet be required to "provide a fixed payment to the Supplier to cover a portion of development costs". This introduces a new and potentially unmanageable risk at this late stage of procurement and contract design.

Environmental Attributes

Do you have any feedback regarding the IESO's proposal related to sharing the benefits from Environmental Attributes during the second half of the term?

Do you have any feedback on alternate approaches to managing the uncertainty associated with the value of Environmental Attributes?

ESC recommends that the IESO's approach to Environmental Attributes under the LLT be consistent with those under LT2 (i.e. supplier owns the Attributes for the duration of the contract).

Section 3: General Comments/Feedback

Do you have any additional feedback to share with the IESO?