

Chuck Farmer
Vice President, Planning, Conservation and Resource Adequacy
Independent Electricity System Operator
120 Adelaide Street West, Suite 1600
Toronto ON, M5H 1T1

September 30, 2022

RE: Feedback on Draft E-LT1 RFP and Contract

Dear Mr. Farmer,

This submission has been prepared by Energy Storage Canada (ESC) on behalf of its members in response to the Independent Electricity System Operator's (IESO's) request for feedback with respect to the draft Request for Proposal (RFP) and draft contract pursuant to the expedited process of the first Long-Term RFP (aka "E-LT1 RFP"), which was posted on the IESO's website on August 25, 2022.

We appreciate the effort the IESO has taken throughout the engagement process related to the development of these draft documents, which reflects feedback previously submitted to the IESO from ESC and its members. We recognize that the success of the IESO's E-LT1 RFP is of utmost importance for Ontario to ensure that there is reliable electricity supply available during the mid-2020's as the supply-demand balance tightens. We also acknowledge that the upcoming procurement reflects a significant opportunity to broadly deploy energy storage resources across the province, resulting in a change to Ontario's supply mix. With this context, we offer the following recommendations for improvements and clarifications.

Feedback on E-LT1 RFP

1) Target Capacities

IESO has established that there will be a target capacity for energy storage and a target capacity for non-energy storage assets. ESC recommends at least 70% of the target capacity for the E-LT1 RFP be allocated to energy storage projects. Further, the IESO should describe how the target capacities will be set for the E-LT1 RFP, including any interplay between targets or results of the Same Technology Uprate process.

In the event that a portion of non-storage target capacity remains unallocated following the evaluation of proposals, ESC seeks to clarify that the remaining target capacity from the E-LT1 RFP procurement would be awarded to additional storage projects.

2) Duration as Rated Criteria

The IESO has proposed duration as one of four rated criteria. As referenced in past ESC submissions, ESC suggests IESO clarify the evidence required to demonstrate achievement of rated criteria points for duration of service and that IESO continue to monitor for compliance should resources be selected.

ESC recommends there be some additional compensation provided to projects that provide higher duration, since the IESO is providing a rated criteria for points. The IESO must value the additional duration received on the grid.

3) Indigenous participation as Rated Criteria

ESC suggests exploring a “price adder” approach to incent Indigenous participation in projects rather than rated criteria. Given the tight timelines (especially for the expedited process) and the desire to ensure options for ongoing engagement in projects, we believe that a price adder for Indigenous participation (perhaps based on a sliding scale of equity participation), would create flexibility to add partners to the project prior to commercial operation or during the contract term. We also believe that this would create a more financeable contract, as remedies for change in participation levels is the loss of the price adder, rather than potential default.

Feedback on E-LT1 Contract

1) Early COD Multiplier

ESC believes that it will be challenging and costly to expedite the in-service date for new projects. To incent early COD, the IESO may need to increase the proposed early COD multiplier to balance out costs and potential financial reward.

2) Environmental Attributes

The phrasing within the contract should be redrafted for additional clarity. It is unclear what is meant by “except in respect of the Supplier’s performance requirements under this Agreement.”

3) State of Charge

It is unclear how State-of-Charge Limited Hours will be determined. For example, will the IESO accept self-declaration or interrogate the battery? This is material for participants as it has implications on equipment selection. It would be beneficial for the IESO to provide an example for reference.

4) Termination of contract

It is not clear that IESO has no termination right if COD does not occur at MCOB. This is an obligation of the contract, and the contract refers to time being of the essence, which at common law may give IESO such a right.

5) Completion and Performance Security

The contract should be clarified such that the forfeiture of the completion and performance security would be the IESO’s sole and exclusive remedy in the event of a Supplier Event of Default.

The current proposal security for a large-scale project is set to \$60,000/MW and \$45,000/MW for a small-scale project. These amounts are extraordinarily high for the proposal stage of the procurement process. EnergyCo New South Wales in Australia is currently running a procurement for 33,600 GWh of generation annually and 2,000 MW of long-duration energy storage with the first tender round set to open on October 4, 2022. During the initial non-price proposal stage of the process, no bid security is required. During the price bid stage, the bid security bond is set at \$4,000/MW with a cap of \$800,000. Similarly, in recent energy storage procurements in

California in response to a mid-term reliability decision issued by the Public Utilities Commission, almost all of the load serving entities required no upfront bid security with limited (\$3,000/MW) security even required once a project was short-listed.

Considering the IESO has already completed an RFQ process to determine the quality of applicants, the extremely high proposal security amounts are excessive and financing charges for the letters of credit will be passed on to Ontario ratepayers without any further gain in bid certainty. ESC recommends that the proposal bid amount be reduced to \$10,000/MW for a large-scale project and \$5,000/MW for a small-scale project.

6) Planned Outages

ESC is concerned that limiting Planned Outage Hours to 5% of the Qualifying Hours is unrealistic and exposes Suppliers to penalties.

We recommend contract payments be reduced during maintenance outages. Alternatively, there should be an option to de-rate the Maximum Contract Capacity for a month per year for annual maintenance that will not result in a default (i.e., current draft stipulates that the Supplier cannot drop below 75% of the contract capacity). This would be a dedicated scenario for annual planned maintenance only.

If IESO does not change this provision operators will be forced to do maintenance on the weekends outside the qualifying hours, adding costs to facility operations unnecessarily. This will be reflected in higher prices.

7) Contract Price Indexation

ESC supports the Consortium's recommendation (led by Power Advisory) for Contract Price Indexation with respect to an indexing methodology, which consists of several components: Lithium carbonate; other battery materials; transportation costs; and engineering, procurement, and construction (EPC) costs.

Materials Cost Index Adjustment (MCIA) = Lithium Adjustment + Other Battery Materials Adjustment + Transportation Adjustment + EPC Adjustment

and

$FCP_{adj} = FCP * MCIA$ (adjusted FCP)

where,

Lithium Adjustment = $(LPI_{final} / LPI_0) * LCF * FX$

- LPI_{final} is the Lithium Carbonate Price Index 12 months after the Contract Date
- LPI_0 is the Lithium Carbonate Price Index at the Proposal Submission Date
- LCF is conversion factor to account for the percentage of Lithium Carbonate in the FCP

Other Battery Materials Adjustment = $(OBM_{final} / OBM_0) * OMBCF * FX$

- OBM_{final} is the Other Battery Materials Cost Price Index 12 months after the Contract Date
- EPC_0 is the Other Battery Materials Cost Price Index at the Proposal Submission Date
- OMBCF is conversion factor to account for the percentage of Other Battery Materials Costs in the FCP

Transportation Adjustment = $(TRANS_{final} / TRANS_0) * TCF * FX$

- $TRANS_{final}$ is the Transportation Cost Price Index 12 months after the Contract Date
- $TRANS_0$ is the Transportation Cost Price Index at the Proposal Submission Date
- TCF is conversion factor to account for the percentage of Transportation Costs in the FCP

$$\text{EPC Adjustment} = (\text{EPC}_{\text{final}} / \text{EPC}_0) * \text{EPCCF} * \text{FX}$$

- $\text{EPC}_{\text{final}}$ is the EPC Cost Price Index 12 months after the Contract Date
- EPC_0 is the EPC Cost Price Index at the Proposal Submission Date
- EPCCF is conversion factor to account for the percentage of EPC costs in the FCP

FX is an adjustment for any foreign currency the index is denominated in and the Canadian Dollar between the Proposal Submission Deadline and one year after the Contract Date, when the indexing is calculated.

Considering the diversity of the potential projects, Proponents should be able to select the conversion factors for each MCIA index component, i.e., the percentage of the FCP to be escalated by the index, and to choose which index to use from several options. For example, Lithium could be indexed against the Shanghai Metals Market index, Asian Metals, Solactive Global Lithium Index, etc.

It is also recommended that the MCIA have a type of “collar” such that the IESO risk is capped at a certain pre-determined threshold value, but the Proponent can elect to proceed with the project even if the indexing is capped at that value. Conversely, if the index drops below a certain pre-determined threshold value, the Proponent can elect to abandon development and terminate the contract with the return of its Completion and Performance Security similar to contract termination in Section 2.13(b) of the Contract.

8) Storage Payment Mechanism

There are concerns that the payment mechanism outlined is an inefficient hedge since there is no relationship between the capacity payment and market revenues. In a contract-for-difference structure, the payment amount under the contract depends on the market price and contract payments increase or decrease in relation to how the market price fluctuates. The proposed payment mechanism increases or decreases the contract payment at a set percentage whether market revenues are a little or a lot below or above the IESO-set spread.

- In order to take a view on the appropriate LSAF and HSAF factors, a proponent needs to have a view on future prices, yet this is what proponents are trying to hedge against (i.e., significant risk for guessing incorrectly)
- The MPSAF adjustment is not proportional, i.e., if the AMPS is \$0.1/MWh or \$100/MWh above the top end of the collar, the claw back is the same (i.e., very risky) – in other words, it can potentially reduce what little variable income there is from the energy market
- The limits on the collar do not appear to be indexed to inflation, which is a problem in a high inflation environment over a period of 20+ years in the contract
- There is no provision to adjust collar when MRP is implemented. The effect of LMP with a \$10/MWh and \$50/MWh collar could be completely different than that of HOEP, jeopardizing Supplier revenues.
- The ANPC are very onerous and allowing for only 5% of the Qualifying Hours to be credited in calculating the AMCC increased the likelihood of a Supplier attracting ANPC
- There is no incentive, beyond market prices, to provide energy. If the spread is not sufficient to cover charging costs and demand charges associated with charging the battery after discharge, there is no incentive to provide energy.

9) Force Majeure

IESO has not provided an explanation with respect to its requirements of force majeure, which has changed relative to other IESO contracts. Notably, IESO has included the requirement to demonstrate commercially

reasonable efforts. ESC is concerned this new requirement could add an administrative burden and additional uncertainty/risks for contracted storage.

The definition of force majeure should also expressly state that supply chain bottlenecks and connection delays may be eligible events of force majeure.

Further, as currently described, force majeure relief does not extend the Term. We believe this penalizes a Supplier for an event of force majeure, which by definition is beyond their control.

10) Change In Market Rules

IESO market rule protection is much narrower in the E-LT1 RFP relative to previous IESO contracts. IESO has not provided an explanation for this change in approach, which creates significant added risk for suppliers.

ESC notes that IESO is contemplating a range of potential market rule changes (including but not limited to the Market Renewal Program), that will have substantial, and currently unknown impacts of E-LT1 projects. The current terms offer no protection in the event that future changes impact supplier economics. This is a departure from previous IESO contracts and is one of the most significant challenges of the current contractual design. ESC believes changes are required to ensure the contract is financeable.

11) Reimbursement of Regulatory and Global Adjustment Charges

The drafts state that the Electricity Storage Facility will be eligible for a regulatory charge credit (including a reimbursement for Global Adjustment [GA], subject to a minimum round-trip efficiency assumption of eighty percent [80%] [where actual efficiency below such level will result in less than one hundred percent {100%} reimbursement of such charges]).

ESC recommends the 80% efficiency requirement be removed or reduced to a more reasonable level such as 60%. Energy storage facilities charge during non-Qualifying hours or off-peak hours to minimize the cost of charging and hence would be charging when the grid has excess power generation and requires electricity load to minimize curtailment on generation assets. Therefore, the increased energy needs for technologies with lower efficiency do not burden electricity grids or regulators with additional costs or impacts.

In addition, the economic implications of a lower round-trip efficiency are already included in the project's economic modelling where they need to pay additional energy charges to charge the system. Burdening the economics of technologies, often long duration resources, with lower efficiency with additional regulatory charges may prevent the IESO from procuring such technologies. These technologies provide numerous additional benefits to the grid such as longer durations, overall lowest cost of storage, ancillary benefits such as inertia, and better environmental footprint. These benefits may not be realized due to the selection of an arbitrarily high efficiency metric that likely reflects a technology (lithium-ion) that is not suitable for all applications.

Lastly, the methodology to calculate Reference Efficiency may vary between technologies and has not been defined in the contract.

Once again, ESC thanks IESO for this opportunity to provide comments on the IESO's draft documents. Please don't hesitate to reach out to us if you would like to review or speak to any of our recommendations included herein.

Sincerely,

Justin Rangooni

Justin Wahid Rangooni
Executive Director
Energy Storage Canada