

September 30<sup>th</sup>, 2022



Attn:  
IESO E-LT1 RFP Team  
Independent Electricity System Operator  
120 Adelaide Street West, Suite 1600  
Toronto ON, M5H 1T1

**RE: Feedback on IESO Draft E-LT1 RFP and Contract**

Dear IESO E-LT1 RFP Team,

This submission has been prepared by Capstone Infrastructure 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”).

We appreciate the effort the IESO has taken throughout this extensive engagement process related to the development of these draft documents and we offer the following recommendations for potential clarifications and improvements.

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| <p><b>Force Majeure Exclusions and Inclusions</b></p> | <p>Force Majeure relief for a Supplier is based on the premise that it is poor value to price in risks that are beyond the Supplier’s reasonable control. The list of express Force Majeure events in Section 11.3 should be expanded to reflect market practice as it has developed for new build EPC and equipment supply contracts in the Canadian power sector. In particular, in the current environment, EPC contractors and OEMs typically require express acknowledgement that the following additional events will constitute Force Majeure events, notwithstanding that their occurrence might be reasonably foreseeable:</p> <ul style="list-style-type: none"><li>• the Russo-Ukrainian war continues or escalates;</li><li>• a new strain or variation of COVID-19;</li><li>• pandemics or quarantines and any related governmental actions;</li><li>• port closures, congestions or delays;</li><li>• global supply chain disruptions, including due to labour, materials and transportation shortages and delays; and</li><li>• change in law.</li></ul> <p>Furthermore, given the timing of the procurement and the preclusion on completing SIA’s in advance of PPA execution, delays and cost overruns related to interconnection should be treated as Force Majeure and with cost protection for unforeseeable costs.</p> <p>Suppliers have no ability to mitigate or manage these risks, nor can they pass them down to their contractors and suppliers to manage. While indexation can assist with market price fluctuation, Force Majeure delay costs are not built into market prices. Nor does indexation address the schedule risks associated with the above events, in particular the schedule</p> |
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|                                   | <p>risk to Supplier on MCOD and the Longstop Date. Accordingly, the term should also be extended in the event of a Force Majeure.</p> <p>Using Commercially Reasonable Efforts to mitigate an event of Force Majeure is already addressed broadly in Section 11.2(b), and the references to Commercially Reasonable Efforts standards in Sections 11.3(g) and 11.3(h) are misplaced and do not belong in the definitions of a Force Majeure event itself. Such references in Section 11.3(g) and 11.3(h) should be removed.</p>  |
| <p><b>Market Rule Changes</b></p> | <p>The Market Rule protection of the contract is narrower than previous IESO contracts. With respect to the IESO Market Rule changes and Discriminatory Action, we recommend the IESO consider changes that more effectively cover increased costs that a Supplier would reasonably be expected to incur in respect of the development, construction, operation and maintenance of the Facility, including related to satisfying the Must-Offer Obligation, to substantially restore the Supplier’s economics.</p> <p>We recognize the IESO’s desire to have resources respond to market signals under MRP and locational marginal pricing (LMP) and we do not believe market rule change protection needs to extend to the foreseeable implementation of MRP as it is currently envisioned.</p> <p>An example of the type of change that is not reasonably foreseeable but could occur and could materially impact suppliers economics is the introduction of new non-reimbursable demand or transmission charges, changes to the GA program which would make it impossible for a battery to avoid GA charges, etc. We understand through the IESO’s Energy Storage Advisory Group (ESAG) and Energy Storage Design Project that various aspects of batteries operating in Ontario (ie. SoC, tariff design, etc.) continue to be discussed by the IESO and stakeholders, which we feel creates future uncertainty. We believe lenders may struggle with the lack of protection for these types of market rule changes given the length of the term of the contract.</p> |
| <p><b>Change of Control</b></p>   | <p>We understand the IESO’s desire to ensure that the developers who qualified for the E-LT1 procurement as “Qualified Applicants” remain the controlling force behind their respective Suppliers, at least until COD. However, it is an over-reach for the IESO to extend change of control restrictions to the Qualified Applicant itself or to any entity that may sit above the Qualified Applicant in an ownership group. This is an undue restriction on the business arrangements of Qualified Applicants and an unnecessary administrative burden on the IESO. The IESO did not qualify ownership groups, the IESO qualified the Qualified Applicants based on their track record developing Ontario power projects through to commercial operation. We ask that the requirement for IESO consent to a change in Control be limited to circumstances where the Supplier ceases to be Controlled by the Qualified Applicant.</p> <p>On the same basis, we also ask that the restriction on change in Control be lifted entirely after COD rather than the first anniversary of COD, and prior to</p>  |

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|   | <p>COD, IESO consent to a change of Control be required only where the Supplier ceases to be Controlled by the Qualified Applicant. The outright prohibition on any change of Control prior to 1 year after COD should be removed. A Qualified Applicant should be free to divest a Supplier once commercial operation has been achieved, in particular as the Letter of Credit will remain in place to cover operations.</p>   |
| <p><b>Deliverability Test and Network Upgrade Costs</b></p> | <p>Given the RFP Deliverability Test is different from traditional proponent-initiated and led SIA/CIA processes with utilities with OEB-prescribed timelines, we feel that proponents would benefit from added security or protection arising from network upgrade costs and timelines – which under the current framework proponents have less ability to mitigate themselves. As a result, there is an increased risk of unplanned network upgrade costs and delays resulting from potential restrictions on communications with Hydro One or utilities.</p>   |
| <p><b>State of Charge Definitions</b></p>                   | <p>We have concerns that the definitions of state of charge and state of charge limited as written may create gaps with technology warranties and performance guarantees in conjunction with the IESO’s expected availability requirements to ensure maximum performance and maintenance of battery health over the duration of the contract. As we understand it, technology vendors generally prefer their batteries to cycle within a defined range (ie. 20-80%) rather than fully-charging or fully-discharging. This conflicts with the 98% requirement in the following definition:</p> <p><i>“State-of-Charge Limited” means where an Electricity Storage Facility is State-of-Charge limited in Qualifying Hours as a result of having expended energy in an amount not less than [ninety-eight percent (98%)]of the Storage Capacity in the applicable Qualifying Hours and the [ten (10)] hour period immediately prior to the start of such Qualifying Hours, provided that (a) the energy amount of any operating reserve(s) that is activated from such Electricity Storage Facility as a reduction in load demand during the [ten (10)] hour period immediately prior to the start of such Qualifying Hours, and (b) the amount of any energy required to be reserved during the Qualifying Hours in order to permit the Supplier to meet its commitments in the day ahead energy market, shall each be deemed to be expended energy for purposes of the calculation of expended energy.</i></p> <p>Failure to address this issue will result in accelerated degradation of the batteries, and an inability for all Lithium Phosphate battery providers to provide warranties and performance guarantees, potentially rendering the PPA non-financeable. Options to address this problem include adding a defined term for minimum/maximum SOC not tied to % discharge which should be supplier provided, or allow facilities to submit SOC information via SCADA in real-time (subject to subsequent audit).</p> <p>The <i>Long Term Resource Adequacy Agreement with Energy Settlement</i> from Pacific Gas and Electric Company (PG&amp;E) has been used to successfully finance multiple energy storage projects in the United States. Their definitions and <i>Appendix III: Operational Characteristics</i> may be a useful precedent for the IESO to utilize in defining project specifications.</p> |
| <p><b>Cost Index Adjustments</b></p>                        | <p>We appreciate the IESO including adjustments for cost indices, given the highly volatile market environment faced by developers. We believe this</p>   |

provides best value to ratepayers, as price volatility risk contingencies can be reduced or eliminated.

However, in order to flow these benefits through in pricing, the indices must align with those used by battery storage vendors, and each vendor is different. Accordingly, allowing proponents to select from different indices at different weightings will ensure proponents do not have to 'hedge against the index', and can align the contract adjustments with the supply chain.

We recommend the IESO leverage the following raw materials pricing resources in their Materials Cost Index Adjustment along with trailing 3-month averages in order to accurately benchmark manufacturing timelines and reduce monthly volatility:

**Electrolyte (Shanghai Metals Market - for LFP)**

<<https://www.metal.com/Ternary-precursor-material/202006100002>>

**Li<sub>2</sub>CO<sub>3</sub> (Shanghai Metals Market - Lithium Carbonate 99.5% Battery Grade)** <<https://www.metal.com/Chemical-Compound/201102250059>>

**Cu (London Metal Exchange – Copper Cash Official)**

<<https://www.lme.com/en/metals/non-ferrous/lme-copper#Price+graphs>>

We feel it is important the IESO consider the following for an adjusted contract formula:

1. Baseline raw materials prices as of an initial offer date (associated with the three individual raw materials listed above).
2. The percentage of the total price associated with each individual raw material (proposed by suppliers); and
3. A three-month rolling average for each individual raw material for settlement.

Proponents should also be offered a variety of major global transportation cost indexes from which they would select a preferred index for a proportion of materials costs.

We would be pleased to provide formulas directly from battery technology suppliers with their consent, should the IESO wish to obtain these in creating a revised formula.

We recommend the IESO leverage CanREA, Power Advisory and ESC's proposed comments compiled through extensive discussions with industry stakeholders.

Finally, we propose the IESO allow for FOREX (CAD/USD) and underlying interest rate adjustments in similar fashion to the materials cost adjustment, given the extremely volatile forex and rate-setting environments. There is good precedent for this formulation in the P3 world.

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| <p><b>2.14<br/>Municipal<br/>Support<br/>Confirmation</b></p> | <p>As currently drafted, the failure to obtain a Municipal Support Resolution carries little consequence. While a Supplier may lose the contract, there is no termination cost risk and no risk of losing the Letter of Credit. Rather than creating an incentive to obtain a Municipal Support Resolution early in the process, this creates an incentive to delay the Municipal Support Resolution until a Supplier is confident that a project's economics can be achieved as bid and, if not, to delay in hopes of an IESO termination.</p> <p>We believe that subsection 2.9 (a) obligates the Supplier to comply with all Laws and Regulations, which includes “municipal or provincial laws, orders-in-council, by-laws, codes, rules, policies, regulations and states.” Compliance with municipal permits and approvals would be captured by this covenant in the Contract.</p> <p>We support the Municipal Support Resolution being a rated criteria, given the IESO's desire for certainty in this procurement.</p>  |
| <p><b>Monthly<br/>Payment</b></p>                             | <p>We recommend the IESO leverage CanREA, Power Advisory and ESC's proposed comments compiled through extensive discussions with industry stakeholders. In particular, we recommend the IESO adopt CanREA's proposed approach, which is based on the <i>Long Term Resource Adequacy Agreement with Energy Settlement</i> from Pacific Gas and Electric Company (PG&amp;E), which has been successfully implemented in the market and financed:</p> <p><i>The draft RFP document states that Each Electricity Storage Facility will be eligible for a Market Price Spread Adjustment Factor (MPSAF) in the computation of the Monthly Payment for the Settlement Month, based on the value specified in the Proposal for the Low Spread Adjustment Factor (or LSAF) and the High Spread Adjustment Factor (or HSAF). The IESO's proposed MPSAF would offer no discernible advantage to proponents over a capacity-only contract in terms of energy price risk in the Ontario market, and would therefore not improve competition in the RFP, or offer better ratepayer value. Our primary concerns with the MPSAF include:</i></p> <ul style="list-style-type: none"> <li>• <i>The design would be highly susceptible to “all or nothing” scenarios in which a \$0.01+/- difference in the energy price would or would not trigger the full top-up/claw-back amount.</i></li> <li>• <i>Proponents would be required to estimate and lock in nominal LSAF and HSAF factors based on their predictions of energy market price movements over a 20+ year period – the very risk the MPSAF is ostensibly intended to hedge against.</i></li> <li>• <i>Not indexed to inflation.</i></li> <li>• <i>No provision to adjust the collar when MRP is implemented.</i></li> <li>• <i>Greatly reduces the incentive for energy storage to offer into the market as compared to a capacity-only contract by capping energy market revenues.</i></li> <li>• <i>Adds significant complexity as compared to a capacity-only contract and would impose a high degree of administrative overhead as compared to a capacity-only contract.</i></li> </ul> <p><i>As the LT-RFP stakeholder engagement process has evolved, it has become unclear whether the IESO intends for the MPSAF to be a mandatory or optional adjustment to electricity storage proponents' bids. CanREA would strongly</i></p> |

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|   | <p><i>recommend that the IESO confirm as soon as possible that proponents will have the option to choose whether to make use of the MPSAF or not.</i></p> <p><i>As previously noted, CanREA’s proposed spread adjustment design would require settlement calculation of similar complexity to the IESO’s MPSAF, but unlike the IESO’s proposed structure, it would substantially reduce proponents’ energy price risk while at the same time maintaining a stronger incentive to respond to market price signals. This risk reduction could be clearly understood by prospective financing providers, and could thus result in better financing terms, more robust competition, and reduced overall cost for ratepayers. Proponents who would be less willing to bid for a capacity-only contract would benefit from additional investment certainty, and from the ability to calculate a more accurate capacity offer because volatility price risk is hedged. This will help to increase competition by facilitating participation from those proponents who would be otherwise unwilling to carry the price volatility risk.</i></p> <p><i>CanREA understands the IESO’s position is that our recommended payment structure could be difficult to calculate each day with the IESO’s present and/or anticipated settlement software. CanREA would submit that the financial investment that may be required to upgrade the settlement system to enable a price spread adjustment along the lines of our proposal would be outweighed by more competitive bid prices, lower-cost project financing and ultimately better value for Ontario ratepayers. Furthermore, with energy storage playing an increasing role in our decarbonized market in the future, this investment to set up the proper incentives today will increasingly benefit ratepayers and the system into the future.</i></p> |
| <p><b>Regulatory Energy Charges</b></p> | <p>We recommend the IESO expand the definition of regulatory energy charges to more clearly define eligible charge codes for line items that are reimbursable under the Regulatory Charge Credit as well as settlement timelines. We feel that grid-connected energy storage resources are relatively new to the Ontario electricity system and acknowledge various IESO, OEB and stakeholder positions that regulatory barriers continue to exist that prevent storage resources from fully participating in the IAM, which could lead to future regulatory changes or precedents for energy storage resources. In the event there are future regulatory changes there is not adequate market rule protection given the length of the term of this draft contract.</p> <p>Demand charges remain a potentially significant energy storage operating cost that other North American ISOs have addressed in various ways to ensure a level playing field for storage (ie. reduced via storage-specific rate classes or non-applicable for storage). This is under active discussion in current engagements, and has been identified by the Energy Storage Advisory Group (IESO working group) and the OEB as a barrier facing energy storage. Accordingly, the IESO should treat these costs a pass-through under the Regulatory Charge Credit process.</p> <p>Further, these issues extend to the definition of station services as written, given storage resources are fundamentally different from traditional generation as both a load and a generator. We recommend the IESO consider expanding the definition of station services to clarify them for energy storage resources. Not doing so may require proponents to assume there may be demand charges, GA or other applicable costs associated with</p>   |

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|   | station services. We recommend station services be exempt from demand charges and GA altogether.   |
| <b>Global Adjustment &amp; ICI</b>  | The uncertainty surrounding storage projects participating in the ICI program and future successor programs may create challenges for lenders. We wish to emphasize that lack of market rule change protection in the future would help to mitigate proponent concerns. The magnitude of exposure to potential GA costs is very material, if batteries become unable to avoid them through market rule changes.  |
| <b>Indigenous Support Confirmation Letter and the Municipal Support Confirmation Letter</b> | Both the Indigenous Support Confirmation Letter and the Municipal Support Confirmation Letter require that the Maximum Contract Capacity be specified in the form unless you are obtaining a “blanket” resolution. As the Maximum Contract Capacity is a bid-sensitive number (which is also used for tie-breaks under the RFP), and as the Deliverability Test results may not be available when obtaining the resolutions, we request that the Support letter should use either a range or a not-to-exceed number for capacity rather than the actual number being bid.  |
| <b>Exhibit C and Exhibit G</b>  | <p>We request the IESO consider the following feedback related to Exhibit C and Exhibit G:</p> <p><u>Exhibit C</u></p> <ul style="list-style-type: none"> <li>• Request removal of Permitted Assigns as a beneficiary.</li> <li>• Request receipt of a certificate of transfer for any change in beneficiary from IESO.</li> <li>• Request removal of the proposed transfer provision and addition of [lender] standard transfer clause and exhibit A for the format for the Certificate of Transfer.</li> </ul> <p><u>Exhibit G</u></p> <ul style="list-style-type: none"> <li>• The Security Agent is required to state that the recitals to the agreement are true and accurate (section 3(l)). We believe lenders may struggle to state that for recital A.</li> <li>• Per section 2 - Security Agent is agreeing that its rights are subject to the accuracy of the reps and warrants of the Supplier in Section 4. If the Supplier has made a misrepresentation (which a lender cannot control), lenders would not get the benefit of Acknowledgement and Confirmation.</li> </ul> |
| <b>Hourly Dispatch Visuals</b>  | We would appreciate if the IESO would consider circulating an hourly (or sub-hourly) battery charge and discharge / availability profile visual to describe multiple scenarios of how a battery project would operate in conjunction with the must-offer provisions and overnight charging as well as the contract terms (ie. business days versus weekends), including the definition of State of Charge. Doing so would help proponents and technology vendors better understand and interpret the contract requirements of the contract when determining their project configuration and dispatch strategy.   |