

Energy Storage Design Project – Feedback Form

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Feedback Provided By:

Company Name: Energy Storage Canada

Contact Name: Justin Wahid Rangooni, Executive Director

Contact Email: jrangooni@energystoragecanada.org

Following the March 26, 2020 Energy Storage Advisory Group (ESAG) webinar to discuss the Energy Storage Design Project, the IESO is seeking feedback from participants on the state-of-charge (SoC) management options. The IESO will work to consider feedback and incorporate comments as appropriate and post responses on the engagement webpage.

The referenced presentation and design document can be found under the March 26, 2020 entry on the [ESAG webpage](#).

Please provide feedback by April 16, 2020 to engagement@ieso.ca. Please use subject: *Feedback: Energy Storage Design Project*. To promote transparency, this feedback will be posted on the [ESAG webpage](#) unless otherwise requested by the sender.

Thank you for your time.

| Topic | Feedback |
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| <p>What design principles and considerations (as listed in March 26 webinar deck) are most important to you in developing a state-of-charge management framework and why?</p> <p>E.g., efficient market outcomes, the ability for storage to compete on a level playing field, a practical approach that could be implemented on a timely basis, etc.</p> | <p>Energy Storage Canada (ESC) recommends that a new resource category for energy storage be created that treats load as negative generation, rather than require an energy storage resource to register as two separate resources (generation and load). For example, this philosophy is currently in place for NYISO PSH, and in CAISO. NYISO Pumped Storage Hydro (PSH) facilities bid as a negative generator for intervals when they desire to be in pumping mode. This is similar to bidding as a price capped load as the resource pays LMP, but PSH is not allocated certain costs that are only allocated to loads. PSH offers as a generator in intervals when the resource desires to sell and supply energy. If something similar could be incorporated into the IESO-Administered Market (IAM) for Energy Storage Resources (ESRs), it would provide a technically straightforward option for the resources, however it is imperative in any model the IESO implements that a resource does not receive conflicting Day Ahead (DA) financially binding schedules for both generation and load in the same hour. IESO should also examine current PSH optimization models already utilized in other markets (PJM) to see if they can be utilized in the IAM.</p> <p>It is also important to note that many ESRs are based off relatively new technologies to the IAM, therefore the IESO should attempt to relax some of the restrictions/barriers to entry for these assets until their capabilities are tested and known.</p> <p>It is imperative that SoC management will reduce participant risk and produce schedules and dispatches that meet both the reliability needs of the grid and the revenue requirements of the participant. Coordination with electricity distributors would also ensure that local reliability is not compromised.</p> |

| Topic | Feedback |
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| <p>Based on the Storage Design Project principles and considerations, what state-of-charge management option(s) do you support and why?</p> <p>E.g., Self-Schedule, Self-SoC-Management, SoC-Management-Lite, ISO-SoC-Management</p> | <p>The SoC management framework should not restrict a market participants' ability to manage risk and opportunity while ensuring reliability of the grid. Participants should be given a choice as to whether they would like to optimize their ESRs in DAM/RT, or if they would prefer the IESO to do it. Additionally, participants should also be given the flexibility to adjust their SoC Management options from the DAM to RT energy market. This will potentially allow ESRs the ability to reduce risk or potentially increase flexibility in their asset to maximize revenues. If the market works as intended, IESO-SoC Management should produce the best outcome for the ESR while maintaining grid reliability, however the system is dynamic and should unforeseen conditions occur in Pre-Dispatch/RT market it may be beneficial for the ESRs to switch to Self-SoC Management to take advantage of opportunities while providing support to the grid.</p> |

General Comments/Feedback: Energy Storage Canada appreciates the work the IESO is doing to improve the efficiency of Energy Storage Resources through the reduction of barriers to their participation. The evolution of the design elements related to State-of-Charge is a key component to unlocking the capabilities of ESRs. We look forward to working with the IESO to further enhance the understanding of each of the design elements and how to utilize them to create a more efficient market while ensuring grid reliability.

Regarding uplift charges the IESO should consider following the same practices that are in place for generators if ancillary services are provided the ESRs should not be charged. FERC 841 supported removing all charges if ESRs are providing ancillary services which would include Network Service Charges (NSC), therefore there should be an investigation into the removal of transmission charges which are set at the OEB. Also, further research into other jurisdictions practices with regards to uplift charges for ESRs should be considered.