Energy Storage Design Project – Feedback Form

May 20, 2020

Date Submitted: *2020/06/10*	Feedback Provided By: Company Name: Capital Power Corporation ("Capital Power") Contact Name: Emma Coyle Contact Email: ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Following the May 20, 2020 Energy Storage Advisory Group (ESAG) meeting to discuss the Energy Storage Design Project, the IESO is seeking feedback from participants on whether the design proposals captured within the presentation offer pragmatic solutions for the participation of energy storage in the IESO Administered Markets in the long-term. 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 May 20, 2020 entry on the ESAG webpage.

Please provide feedback by **June 10, 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.

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Topic	Feedback
State-of-Charge (SOC) Management: The IESO has proposed an SoC Management Lite approach that will provide the same market access as a generator and account for the practical operating realities of a storage facility	**Further details are required in order to understand how the IESO determined to propose SoC Management Lite, and how this proposal will both support and balance the principles of competition and efficiency in the IAM.** Capital Power understands and appreciates that the IESO is seeking to balance the principles of competition and efficiency in its market design. However, it is important to not abstract these principles from the broader IAM design or from the principles underpinning the MRP. It is still not clear that the IESO's management of SoC will lead to the efficient dispatch of resources over the short term. IESO management of an ESR's SoC could however undermine competition and price formation thereby diminishing benefits from competition expected to accrue to the ratepayer under MRP. To further explain this position, we think it is important to note that dispatch order and price level are not exclusively determinative of whether a price is *competitive.* Competitive prices result where there is a level playing field and effective framework for competition. IESO management of the SoC for large scale ESRs, particularly where the ESR is also compensated through a long-term contract or rate-regulation, will undermine the competitive price signal in the IAM. Without further detail on how all resources will be compensated for capacity (i.e. the solution to the missing money problem) we remain concerned that the IESO's adoption of SoC Management Lite may result in an inconsistent allocation of risk across participants, thereby undermining the core principle of competition without providing a corollary benefit to efficiency. IESO management of an ESR's SoC is on its face, discriminatory. In order to assess whether this aspect of the long-term design for storage is *unjustly*

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	discriminatory against competing resource types, the following additional information is required: • Details of the cost/benefit analysis undertaken by the IESO supporting its decision to proceed with SoC Management Lite. The cost/benefit analysis should include a detailed assessment of the expected impacts to competition and efficiency over both the short and long terms. It should also set out the expected impact of the risk and cost allocation between the IESO/ratepayer and ESR owner/operator. (E.g. How will the ESR be compensated for costs incurred due to frequency and degree of discharge under the SoC Management Lite model?) • To the extent that the IESO's analysis relied on any assumptions regarding how ESRs and all resources will be compensated for capacity (e.g. rate-regulation, capacity auctions, bilateral contracting) these assumptions should be made explicit to stakeholders. This information will help to assure stakeholders that the IESO's proposed approach effectively supports and balances the principles of competition and efficiency.
Market and Facility Registration: Storage facilities may either register as a dispatchable facility or, if less than 10 MW, a self-scheduling facility	No concerns at this time.

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Storage facilities will be modelled as a single resource with the capability to inject, store and withdraw energy	
Offer Curve: Energy storage offer curves will be continuous over the charging and discharging range	No concerns at this time.
Price Setting: Dispatchable electricity storage resources should be able to set the market clearing prices for energy and operating reserve	In principle, ESRs should be able to set price for energy and OR when the ESR is dispatched by the market. When an ESR is being dispatched for transmission-related reliability reasons, or to address transmission congestion, it should be subject to the same pricing rules as any other resource dispatched for reliability. In order to assess whether permitting dispatchable ESRs to set price will undermine price formation in the IAM, the IESO should provide stakeholders with detail regarding how offer/ bid price mitigation measures will apply to ESRs. It remains concerning that ESRs may be procured and contracted for as a Non-Wires Alternative and be able to compete against grid-connected suppliers for the provision of energy and operating reserve. Resolution of the outstanding question of how all resources will be compensated for capacity will help to ameliorate concerns that uneven playing fields will harm competition and opportunities to earn competitive returns from the IAM.

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Regulation Service: Similar to generators, storage resources will be enabled to provide multiple services including regulation, energy and operating reserve	Capital Power supports this.

General Comments/Feedback:

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