

**Briefing Note**  
**Energy Storage Canada: Actions Required to Address Global Adjustment Regulatory Barriers to Storage**

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**Background**

LTEP 2013 acknowledged a number of regulatory barriers to energy storage in Ontario and prioritized removing them. The Ontario Energy Board, IESO and Ministry of Energy have been diligently studying the barriers over the last 4 years, but have yet to finalize action to remove them. Energy storage continues to experience a number of unintended and inefficient regulatory barriers that are limiting its adoption, operation, and ability to (i) meet the flexibility needs of the system and (ii) help address the increasing electron waste of the cleanest, cheapest electricity and surplus baseload generation in Ontario.

**Issues**

The Ministry of Energy (MOE) recently proposed the first of several regulation amendments to attempt to remove regulatory barriers to energy storage in Ontario. The Proposed Amendment to O. Reg. 429/04 (Adjustments Under Section 25.33 of the Act) on the treatment of Class B storage facilities with respect to the global adjustment (GA), does not adequately address the global adjustment barriers to grid connected energy storage and applies solely to behind-the-meter storage. There are a number of additional regulation changes that are urgently required in order to optimize the multiple energy service benefits from energy storage and address the increasing waste of over 5 TWh of the cleanest, most affordable Ontario electrons.

This briefing note highlights the proposed changes to the amendment to O.Reg. 429/04 and the other regulatory amendments that require the Ministry's prompt action in order to limit the increasing waste of over 5 TWh of the cleanest, most affordable Ontario electrons, and better optimize the Ontario power system. The proposed changes are small "needle and thread" efficiency changes to stitch together existing elements of the power system, and not big, new "mechano set" reconstructions of the entire system.

**Specific Barriers and Proposed Solutions**

**Barrier: Global Adjustment (GA).** GA applies to wholesale energy storage – even when it is operating to store surplus baseload generation and address the increasing waste of over 5 TWh of the cleanest, most affordable Ontario electrons. The proposed amendment to O. Reg. 429/04 will define energy storage and allow behind-the-meter Class B energy storage facilities with an average monthly peak demand under 1 MW to pay GA only on their net consumption (electricity used and stored, net of stored electricity that is "generated". This proposed amendment addresses the GA barriers for only modest commercial and industrial, behind-the-meter storage

and does not address multiple benefit, transmission or distribution connected energy storage that is maximizing customer and system benefits, and minimizing electron waste.

**Proposed solution.** Energy Storage Canada (ESC) proposes that O. Reg. 429/04 be amended to also include the following definition of “grid connected storage facility” and exemption from the application of GA on all electricity consumed net of parasitic load at the grid connected energy storage facility.

*"Grid connected storage facility" means a facility that is directly connected to a transmission or distribution system and is capable of withdrawing electrical energy from the transmission or distribution system, storing such energy for a period of time, and then re-injecting only such energy back into the transmission or distribution system, minus any parasitic use of that electricity at the facility, and does not include an energy storage facility that is located behind the meter of an end-use customer.*

ESC also proposed adding the following subsection (d) to s. 11(3) of O. Reg. 429/04 (proposed new text in emphasis):

(3) The IESO shall not allocate any amount for a month to,

(a) Ontario Power Generation Inc. in respect of the net volume withdrawn from the IESO-controlled grid at the Sir Adam Beck Pump Generating Station;

(b) Fort Frances Power Corporation in respect of the net volume withdrawn by it during the month from the IESO-controlled grid under its physical bilateral contract with Abitibi-Consolidated Hydro Limited Partnership; or

(c) a market participant in respect of the net volume withdrawn from the IESO-controlled grid in the course of providing ancillary services in accordance with the market rules.

***(d) a grid connected energy storage facility in respect of the volume withdrawn by it during the month from a transmission or distribution system that is then stored for a period of time and subsequently re-injected into the transmission or distribution system, net of any volume used to serve parasitic load at the grid connected energy storage facility.***

**Barrier: Other uplift and retail energy charges.** A number of other small regulatory changes are urgently required to remove barriers to energy storage, and put this multi-service energy system tool on a level playing field with single purpose energy service alternatives (such as additional generation, transmission, capacity, distribution resources). Failure to make such changes will exacerbate the waste of over 5 TWh of the cleanest, most affordable Ontario electrons, which has been increasing significantly since these issues were identified in the 2013 LTEP.

**Proposed solution.** ESC has provided the Ministry with several small regulatory amendments that beg for prompt implementation in order to avoid further and increasing electron waste, and better optimize the Ontario power system. As a result we respectfully request that you promptly implement the proposed amendments to the following regulations, which ESC has provided to the Ministry:

**O. Reg. 124/02 (Taxes and Charges on Hydro-Electric Generating Stations)**

**O. Reg. 314/15 (Ontario Electricity Support Program)**

**O. Reg. 442/01 (Rural or Remote Electricity Rate Protection).**

In each case, we request that the applicable regulation be amended to include: (i) a definition of “storage facility” and “grid connected storage facility” and (ii) an exemption of both storage facilities and grid connected storage facilities from various charges, taxes, and financial calculations associated with energy that is withdrawn from a transmission or distribution system, stored, and then reinjected into the transmission or distribution system.

ESC has also proposed amendments to **O. Reg. 541/05 (Net Metering)** to include behind-the-meter storage facilities as “eligible generators” under O. Reg. 541/05 for billing on a net metering basis.

**Rationale.** Energy storage is unique and particularly valuable to the efficient and optimal use of the existing electricity system. *Unlike any other resource in the Ontario energy system*, energy storage can provide all of the following services and resulting benefits.

- Generation and uninterrupted power supply
- Flexible and peak capacity
- Frequency regulation service
- Voltage support
- Operating reserve
- Black start
- Fast(est) ramping to mitigate impact of variable generation from renewable power
- Avoided or deferred costs of distribution/transmission upgrades
- GHG reductions in and outside of the province, lowering reliance on fossil fuel generation
- Seasonal storage
- Load following
- Spinning reserve
- Non-spinning reserve
- Demand shifting and peak demand reduction
- Transmission and distribution congestion relief

*Unlike any other resource in the Ontario energy system*, energy storage can: increase the capacity and value from Ontario's *existing* resources and investments; increase the value, capacity and impact of non-carbon-emitting assets; enhance the resilience of the grid by assisting its protection from disruption, minimizing the economic and social impacts of outages; **and**

***decrease the the waste of over 5 TWh of the cleanest, most affordable Ontario electrons, which has been increasing significantly since these issues were identified in the 2013 LTEP.***

Limiting the proposed GA exemption to only behind the meter consumers with storage, precludes most of these benefits from being realized and effectively penalizes some of the most system beneficial grid connected storage, with no clear rationale for doing so. Similarly, the ongoing delay in implementing the additional proposed regulatory changes severely limits energy storage from acting to absorb surplus baseload power to address the increase electron waste of the cleanest, cheapest electricity in the province.

Should the Ministry have any concerns about the timing of loading or discharge of energy storage facilities, the can, and optimally should, be dealt with in the context of any contracts for energy storage resources and/or related market rules. However, Energy Storage Canada notes that all market signals push energy storage facilities to run economically and store energy while it is abundant and cheap, and discharge when it is scarce and expensive. We therefore request your prompt attention to the proposed regulatory changes in order to avoid further electron waste.

Please do not hesitate to contact us should you have any questions.