Feedback Form

Ramp Rates for Battery Energy Storage System Facilities – July 22nd, 2026

Feedback Provided by:

Name: Travis Lusney

Title: Director, Power Systems

Organization: Power Advisory on behalf of the ESR Consortium

Email: [redacted]

Date: July 31, 2026

To promote transparency, feedback submitted will be posted on the Ramp Rates for Battery Energy Storage System Facilities page unless otherwise requested by the sender. If you wish to provide confidential feedback, please mark "Yes" below: ☐ **Yes – there is confidential information, do not post** ☒ **No – comfortable to publish to the IESO web page**

Following the posting of Ramp Rates for Battery Energy Storage System Facilities, the Independent Electricity System Operator (IESO) is seeking feedback from stakeholders on the proposed changes.

Please submit feedback to engagement@ieso.ca **by July 31st, 2026.** Please use subject: *Feedback: Ramp Rates for Battery Energy Storage System.*

Power Advisory
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July 31, 2026

Tim Lam
Manager, Operability
Independent Electricity System Operator (IESO)
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ATTN: Ramping Rates for BESS

Dear Tim,

Power Advisory has coordinated this submission on behalf of a consortium of energy storage providers under contract with the IESO through multiple procurement initiatives (the "Consortium"[1]). This letter is submitted on behalf of the Consortium to summarize feedback on the Ramping Rates for Battery Energy Storage System Facilities (BESS) engagement.

The Consortium supports the IESO in meeting its obligations as a Balancing Authority and accepts that the coincident movement of a large, fast-ramping storage fleet in response to five-minute energy dispatch instructions can affect Area Control Error (ACE). The Consortium's concerns are with the calibration of the 100 MW/minute limit and with the manner in which that limit has been implemented in advance of any Market Rule or Market Manual amendment. Further, the Consortium believes a defined process and timeline to review the limit should be included. The Consortium's feedback and recommendations are set out below.

1. A higher ramp rate limit should be assessed to determine appropriate final criteria

The IESO states that the ramp rate limitation is required to reduce within-interval over- and under-generation. While the IESO proposes a 100 MW/min limited, there has been no sensitivity analysis comparing 100 MW/min against other limits (e.g., 200 MW/min, 400 MW/min). Sensitivity analysis should consider impact on ACE including comparison to NERC standards (e.g., Control Performance Standard 1 and 2, and Balancing Authority ACE Limit). The Consortium would have expected that the IESO would

[1] The members of the Consortium are Alectra Energy Solutions, Atura Power, Compass Energy, Capital Power, Convergent Energy+Power. EDP Renewables, AYPA, Brookfield Renewables, Scout Clean Energy, Neoen, Northland Power, Boralex, and Potentia.

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have demonstrated why 100 MW/min was selected and why other limits would have aggravated IESO market operations.

2. A single facility-level MW/minute cap is not technology-neutral and applies unequally

The proposed ramp rate limitation is confined to a single resource class (i.e., BESS). The IESO acknowledges that inverter-based variable generation exhibits fast ramping and that higher penetration levels “may necessitate assessments to determine if similar ramp-rate instructions need to be applied.” Imposing a binding, immediately effective constraint on storage while deferring even the assessment of comparable resources is not consistent with the technology-neutral treatment of resources that the Market Rules contemplate. It has the effect of assigning the cost of a system-wide balancing requirement to a single class of participant unfairly. There exists more inverter-based generation prior to any large-scale BESS systems connecting to the system over the past year.

3. Additional Regulation Capacity should be procured to assist ACE issues

The IESO has stated in previous Annual Planning Outlooks (APOs) and other planning materials a need for increased regulation capacity to mee future power system dynamics. The ACE issues discussed in the ramp rate engagement are appropriate to be addressed by the IESO procuring more regulation capacity. BESS is the resource class best suited to providing regulation and the expansion of the BESS fleet in Ontario offers an excellent opportunity to benefit both BESS operators and Ontario rate payers. The Consortium encourages the IESO to advance the expansion and redesign of regulation procurement in parallel, so that the capability being constrained by this instruction can instead be procured and compensated as the balancing product the system needs. The contracts which the BESS facilities operate under (i.e., the Oneida, E-LT, LT1 and LT2 contracts) are well suited to integrate regulation capacity services and many BESS operates anticipated the potential to provide regulation capacity to Ontario at a future date.

4. Address process failure related to actions taken before Market Rule and Market Manual amendments

The IESO implemented the 100 MW/minute limitations prior to appropriate changes to Market Rule and Market Manual amendments going through stakeholder engagement process. The Consortium understands that temporary operational limitations may be required in unique circumstances or under temporary abnormal system conditions. However, the 100 MW/minute limitation was applied consistently for an extended period of time through the registration process and identified in the System Impact Assessment (SIA) as a General Requirement that must be satisfied by the storage facility.

The Consortium's position is straightforward: if Market Rule amendments are required to establish the requirement, the requirement should not have been imposed on market participants in advance of those amendments being presented. A facility-level ramp rate constraint is a substantive obligation that affects how a participant may respond to dispatch instructions and its exposure to compliance assessment and settlement outcomes. Obligations of that character are properly established through the amendment process set out in the Market Rules, which provides for a documented proposal, Technical Panel consideration, publication, a stakeholder comment period, Board approval and rights of appeal to the Ontario Energy Board. Establishing the same obligation as a condition of registration and as a general requirement in a SIA places it outside that process and outside the review rights that attach to it.

The sequencing also reverses the intended function of the IESO engagement process. The IESO's External Engagement Framework presented in the engagement slides commits the IESO to seeking input "when it can have the most impact" and to showing how engagement shaped the final outcome. The ramping rate limitation has been applied for almost one year before an engagement process was launched.

The Consortium feedback is forward looking and seeks to ensure that the IESO and market participants avoid a similar situation occurring in the future. The Consortium believes the IESO should promptly review how operability and system operations requirements of this kind are developed and imposed, particularly focused on those that would violate existing Market Rule or Market Manual obligations for both the IESO and Market Participants. Going forward, the IESO should commit to the published process and seek to initiate the appropriate engagement process in parallel to any ad-hoc restriction or abnormal market operation conditions. As the IESO-Administered Markets continue to evolve, due process will be critical to maintain confidence, support and best outcomes for all of Ontario.

5. Establish a defined review period for the Ramp Rate Limitation

The IESO acknowledges that the ramp is provisional and should be revisited in the future, particularly as the IESO's balancing tools and regulation procurement evolve. The Consortium recommends that any Market Rule amendment include a corresponding obligation on the IESO to review the limit at defined intervals or at defined time period. The review should include obligations to publish operational data so stakeholders and other market participants can understand the impact of the ramp rate limit and what potential changes could be undertaken. The Consortium recommends reviewing the ramping limitation at the conclusion of the implementation of the Single Model Storage Resource (SMSR) under the ERP.

Recommendations

In summary, the Consortium recommends that the IESO:

1. Assess higher ramp rates against reliability standards and publish analysis;
2. Address unequal treatment of ramp limitations only applying to BESS;
3. Initiate Regulation Capacity procurement to meet future system needs and ensure BESS are able to participate;
4. Review the process by which operability and system operations requirements are developed and imposed as it relates to Market Rule and Market Manual amendments to ensure robust governance and policy is used for future market design changes

5. Include a review period for the ramp rate limitation in the Market Rules.

The Consortium appreciates the IESO convening this session and providing the underlying analysis, and would welcome the opportunity to work with the IESO on the calibration of the limit and on the process improvements described above.

We will be pleased to meet with IESO about this submission at a mutually convenient time.

Sincerely,

[redacted]

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