

Stakeholder Feedback and IESO Response

ERP Storage and Co-located Hybrid Integration Project

Following the May 22, 2026, ERP Storage Project engagement session, the IESO invited participants to provide comments and feedback on the materials presented by June 5, 2026.

The presentation materials and stakeholder feedback submissions have been posted on the ERP's [Storage Project](#) webpage for this engagement.

Please reference the material for specific feedback as the below information provides excerpts and/or a summary only.

If you have any questions or concerns, please contact engagement@ieso.ca.

The following participants submitted feedback that is summarized in the tables below:

- [Power Advisory \(On behalf of the ESR Consortium\)](#)
- [Energy Storage Canada](#)
- [Ontario Power Generation](#)
- [Atura Power](#)

Based on stakeholder feedback and ERP's design principles of efficiency and competition, the IESO will commence engagement on Make-Whole Payment (MWP) treatment for all energy limited resources. The first session is being planned for Q3/Q4 2026.

Settlements and Economic Operating Point

Stakeholder Feedback	IESO Response
Profits clawed back to offset MWPs: • The design appears to offset profits earned in other hours (DAM) or other intervals (RTM), reducing MWPs in one period based on gains in others, which lowers storage revenue. Market intervals have distinct outcomes and should not be offset against each other. Storage operations are intertemporal (state of charge, managing risks across energy and operating reserves, future operating obligations), so outcomes in one hour/interval shouldn't offset another. • The IESO cannot determine whether storage has made a "profit," since observed gains may reflect risk management rather than true earnings. For example, a battery may be dispatched to discharge uneconomically and then need to recharge at a loss to restore its state of charge and manage future price risk, making any apparent profit misleading. • A storage resource should not lose the opportunity to realize profits in one hour solely because it was uneconomically dispatched in another hour and therefore became eligible for MWP payment. • This design creates perverse incentives: ○ May discourage Market Participants (MPs) from following schedules and dispatch, negatively impacting reliability	• The intent of the MWP is to compensate SMSRs for payment shortfalls resulting from uneconomic dispatch decisions; it is not intended to guarantee a profit. • The DAM calculation engine considers the least-cost optimization of the DAM schedule across the entire 24-hour trading day while considering intertemporal characteristics of SMSRs, whereby uneconomic withdrawals in one or more hours can increase the energy available for injection in subsequent hours, and vice versa. The DAM MWP should be aligned with the DAM calculation engine and be evaluated over the same time horizon while also considering intertemporal relationships. • Given the intertemporal characteristics of storage resources, the DAM MWP calculation must appropriately account for both injections and withdrawals across the full trading day. Evaluating each hour independently could overcompensate storage resources and result in unnecessary uplift costs to ratepayers, even when there is no actual shortfall over the entire trade day. • A similar principle exists in the current market for hydroelectric generation resources, where profits are offset against losses incurred when a start is binding which can span multiple hours. • The rationale for calculating DAM MWP over a 24-hour horizon may not be unique to storage resources and may be applicable to other energy-limited resources. To address concerns regarding inequitable treatment of storage, an additional engagement will be initiated in Q3/Q4 2026 to explore the treatment of other energy-limited resources. As such, ERP will pause changes related to this

○ Could reduce market participation since operation could result in losses, which could increase wholesale market prices ○ Undermines the purpose of MWP, which is to ensure resources are dispatched economically or compensated appropriately for uneconomic dispatch. • Participants have no equivalent mechanism to recover losses even though IESO can claw back profits. • No other resource type at the IESO is treated this way, raising concerns of inequitable treatment of storage. • Energy storage contracts are structured around fixed capacity payments, with project economics partly depending on earning market revenues. Since proponents factored these revenues into their competitive bids, clawing back DAM profits would undermine the intended contract design and could negatively affect the financial viability of storage projects. • Accepting this approach could allow the IESO to justify extending it over longer time periods (e.g., across a settlement month rather than a day or hour). Limited justification has been provided on this decision; stakeholders recommend removing this approach and calculating MWPs by hour or interval, consistent with other participants.	design element until further engagements are completed. • Similarly, Real-Time (RT) MWP offsets profits against losses across multiple intervals when the SOC's diverge between Multi-Interval Optimization (MIO) and Economic Operating Point (EOP) engine to reflect the inter-temporal characteristics of SMSRs. Dispatch instructions in one interval affect an SMSR's ability to operate in subsequent intervals because of limitations associated with its state of charge. • Without multi-interval netting, an SMSR could receive compensation for losses incurred in one interval while retaining gains realized in later intervals that were made possible by the schedule for which the earlier MWP was made, resulting in overcompensation when intervals are assessed in isolation. • While the current Real-Time Generator Offer Guarantee (RT GOG) is a cost recovery mechanism, it uses a similar concept where revenue and costs are evaluated over a multi-interval period, as compensation cannot be assessed accurately on a single dispatch interval in isolation within the defined calculation period. • As mentioned above, the intent of the MWP is to compensate SMSRs for payment shortfalls resulting from uneconomic dispatch decisions; it is not intended to guarantee a profit. It is expected that project economics rely on revenues resulting from active market participation and effective operating / bidding strategies, and not on MWP. • Contract holders can direct any inquiries or concerns about their contracts to the IESO's Contract Management group.
Forced Discharge and Lost Cost (LC)/Lost Opportunity Cost (LOC) Treatment • Stakeholders previously requested clarity on how Dispatch Scheduling Optimizer (DSO) driven forced discharge, particularly due to reduced	• As outlined in the design document, where a change to either the MinSoC or MaxSoC between the previous hour and the current hour becomes binding, the SMSR will not be eligible for a real-time make-whole payment in the current hour. Any resulting withdrawal or injection is attributable to market participant-

Maximum State of Charge (MaxSoC), will affect settlement outcomes. It remains unclear how such actions will be treated in LC and LOC calculations; clarification is requested on how operator driven dispatch will be distinguished from DSO driven forced discharge to avoid unintended lost cost impacts.	submitted operating parameters and therefore does not qualify for RT MWP compensation.
Initial State of Charge (ISoC) Divergence and Settlement Exposure: - Concerns were previously raised about financial exposure from divergence between submitted ISoC and actual State of Charge (SoC) at the start of real-time operations. While differences between DSO and EOP SoC are acknowledged, no settlement mechanism to mitigate this exposure is proposed; consideration of tolerance bands or safeguards is recommended to avoid penalizing forecasting errors. - The IESO is requested to provide a clear explanation of how it intends to address the financial exposure created by this requirement, and what recourse is available where the actual SoC deviates from the submitted ISoC through no fault of the storage participant.	- While the IESO recognizes that discrepancies could arise between ISoC and actual SoC, MPs have the ability to manage this exposure through their bi-directional offers and dispatch data submissions. It is up to the MP to determine the level of risk that they are comfortable with in the DAM. - Differences in the evolution of SoC between the DSO and EOP calculations arise because energy schedules and energy EOPs may not align, which is the basis for MWP calculations.
Updates to equations should not impact other resources: Consider updates to the operating profit function, inaccessible Operating Reserve (OR), internal congestion and loss residuals to impact only Single Model Storage Resources (SMSRs) on the charge codes and/or equations to avoid any unintentional impact on other resources.	- As indicated in the Settlement design memo, modification to the operating profit function is specific to SMSRs. The existing operating profit function remains unchanged for all other resources. - Changes to Inaccessible OR is limited to Total Accessible Operating Reserve (TAOR) equation. A separate TAOR equation has been added specifically for SMSR. No other resources are impacted by this change. - However, with the introduction of new two-settlement equations, the total internal congestion and loss residual was updated to add a new component specifically for the single

	model storage resources. Refer to section "Impacted Current Settlement Amounts" of the settlement design memo for the updated equation.
RT MWP adjustment charge calculation period: The RT MWP adjustment charge for determining ineligibility appears to be assessed over a calculation period extending up to the end of the trade date. Confirmation is requested on whether this period will be specified in market files or settlement statements.	The intent of the RT MWP adjustment is to reflect the period over which inter-temporal effects associated with deviations between dispatch and economic operating points are realized. This request will be considered during implementation phase.
Confirmation on publishing EOPs in time: It is important that EOPs be published in time for inclusion in the preliminary settlement data file. Confirmation is requested that this timing will be met, with the additional SoC model for EOP calculations now required in the EOP engine.	The DSO and EOP will be included in the preliminary and final settlement data file and published as per the current settlement statement schedule.
General Feedback: - Appreciation for progress on the SMSR Settlements and EOP design, with encouragement to maintain clarity, predictability, and operational feasibility given storage complexities. - Emphasis on aligning the settlement framework with ERP objectives, i.e., transparency, efficiency, and fairness across resources and providing practical guidance, examples, and testing opportunities ahead of implementation. - Although expanded data publication is considered out of scope of ERP, stakeholders reiterate improved visibility into dispatch; pricing and settlement inputs remain essential for participants to understand and validate the new framework.	- We appreciate your recognition of ERP's significant progress, and continued alignment with ERP objectives. We will continue to prioritize clarity, predictability, operational feasibility, and alignment with transparency, efficiency, and fairness as the design evolves, along with providing practical guidance to support implementation. - We acknowledge the importance of visibility into dispatch, pricing, and settlement inputs. While expanded dispatch and pricing visibility remains outside ERP scope, ERP will support readiness by updating public reports to reflect new daily uplift charges providing day-in-the-life examples for storage market participation and conducting market trials with MPs.