

30 June 2026

Submissions
Electricity Authority

By email: OperationsConsult@ea.govt.nz

Wholesale market arrangements for battery energy storage systems (BESS)

Meridian appreciates the opportunity to provide feedback on the Authority's consultation on wholesale market arrangements for battery energy storage systems.

Meridian is generally supportive of the proposed Code amendments, and associated software upgrades, to:

- Require BESS to be dispatchable when charging.
- Move to a single bid and offer form, and a single reserve offer form (but with separate sections for generation reserve and interruptible load) for BESS.
- Allow full capacity trading for BESS with state of charge constraints and one hour gate closure. State of charge constraints would ensure dispatched quantities remain feasible, allowing BESS owners to trade their full capacity.
- As an interim arrangement, allow BESS owners to trade their expected capability and revise trade quantities after gate closure if expected capability changes.

Meridian also supports the proposal to accelerate work on investigation of a reduced gate closure period for BESS. In Meridian's opinion, a reduced gate closure period has the potential to deliver significant efficiencies in BESS use.

Meridian has targeted feedback on several details in the consultation paper:

- Section 5 mentions impossible dispatches where load and/or interruptible load (IL), and generation are dispatched at the same time. The system operator has proposed a fix for the current issues, but we note that impossible dispatches can be caused by

invalid order configurations. For example, when bids are priced higher than offers, a market price between the two will clear both. Meridian considers that single order forms should require that all bid price bands are priced below all offer price bands. The same could apply to IL and generation reserve offers respectively, if necessary.

- Section 6 mentions the use of state of charge (SoC) in dispatches. Meridian recommends that the SoC be forecast by the system operator at least through the schedule period, with the forecast SoC published in the same way as other market data on schedule runs.
- Also in Section 6, Meridian considers that BESS order quantities should be able to be reduced inside GC based on forecast SoC, rather than maintaining quantities and relying on SoC constraints. The proposed definitions of adjusted consumption capacity and adjusted generation capacity appear to remove that option. Greater certainty of SoC outcomes would allow for more optimal trading of future trading periods. At present traders must reduce order quantities inside GC to ensure they are achievable based on expected SoC, and this also provides us more certainty of possible dispatches and therefore of future SoC and cost or revenue outcomes. If the ability to reduce order quantities inside GC based on expected SoC is restricted due to the implementation of SoC constraints and the proposed capacity definitions, this will lead to a reduction in ability to manage cost or revenue.
- Section 6 also specifies the SoC constraint on injection to be:

$$(1 + \text{variable_loss_factor}) * (\text{Generation_MW} * 0.5\text{hr} + \text{SIR_MW} * 0.25\text{hr}) + \text{fixed_losses} \\ \leq \text{MWh min} - \text{starting state of charge}$$

Meridian queries whether the variable losses applied should be inverted, so the calculation would instead be:

$$(\text{Generation_MW} * 0.5\text{hr} + \text{SIR_MW} * 0.25\text{hr}) / (1 - \text{variable_loss_factor}) + \text{fixed_losses} \\ \leq \text{MWh min} - \text{starting state of charge.}$$

Please contact me if you have any queries regarding this submission.

Nāku noa, nā

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