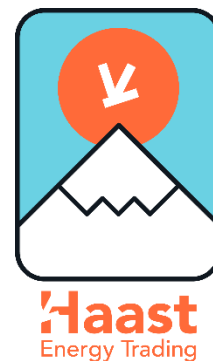


22 July 2026

Electricity Authority

By email: OperationsConsult@ea.govt.nz



Supplementary evidence on BESS charging and state-of-charge information

Dear Operations team,

Haast Energy Trading asks the Authority to accept this short supplementary evidence note in support of Haast's 30 June 2026 submission on wholesale market arrangements for battery energy storage systems (BESS). This note does not change Haast's earlier positions. It provides recent practical evidence of the market-information problem identified in that submission and sharpens the publication outcomes we recommend.

Recent July conditions have made the information gap concrete

Since lodging its submission on 30 June 2026, Haast has examined July spot and operational outcomes in greater detail. The behaviour of Ruakaka and other grid-scale batteries has been important to understanding peak prices and the operation and market effects of HVDC constraints. Batteries can materially change net load or injection as they move between charging and discharging, while their state of charge affects how long that response can be sustained.

The publication limitation is not new, but its practical significance became clearer when Haast tried to reconstruct actual battery behaviour during July. Current public data can show a battery discharging, but may not separately identify the same asset charging.

Ruakaka provides a concrete example. Its generation is identifiable when the battery discharges, but its charging is combined with other load at BRB0331 in the public load data. The charging component cannot presently be separated reliably from the other load at that point of connection. Charging may be separately visible when a BESS participates as dispatchable demand, but that participation is not currently mandatory.

This prevents participants from reliably reconstructing the battery's net operation and stored energy. In analysing July conditions, they may be unable to distinguish charging from unrelated BRB0331 load, assess whether battery demand contributed to or responded to an HVDC constraint, estimate energy available for a later peak, or explain an observed price effect with confidence. The resulting information asymmetry affects forecasting, dispatch and price analysis, hedge and FTR valuation, and trading-conduct monitoring, and will become more material as battery participation increases.

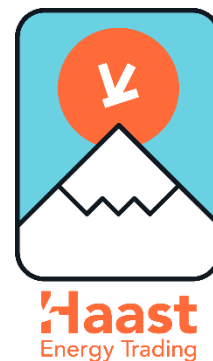
A proportionate publication framework

Haast supports the proposed requirement for BESS to be dispatchable while charging and the proposed single bid and offer framework. The associated software and data design should treat participant-usable publication as part of implementation, rather than leaving it as a later portal enhancement.

Haast recommends that the Authority require the relevant market operation service providers and the System Operator to deliver the following:

- 1 An immediate public data product that separately identifies BESS charging and discharging at asset or point-of-connection level, with stable identifiers, consistent intervals and quality flags.
- 2 Publication of charging bids, discharge and reserve offers, schedules, dispatch instructions, revisions and constrained outcomes, with direction unambiguous.
- 3 Next-day publication of five-minute or best-available state of charge or energy availability in MWh for each utility-scale BESS, with energy limits and quality or revision flags.
- 4 Near-real-time aggregate state of charge or energy availability at New Zealand or island level, without revealing each asset's live position.

- 5 Publication of usable energy capacity, efficiencies, parasitic-load treatment, deratings, reserve commitments and material state-of-charge constraints.
- 6 SPD and vSPD information sufficient to reproduce how energy limits, charging, reserve provision and post-gate-closure revisions affect dispatch and prices.



Australian practice provides a useful benchmark

The Australian Energy Market Operator's Enhancing Reserve Information framework publishes the previous trading day's five-minute battery energy availability by Dispatchable Unit Identifier. Its bidirectional-unit arrangements separately identify the generation and load directions in bids and dispatch data. AEMO is also implementing near-real-time regional aggregate battery energy availability.

New Zealand need not copy the NEM design, but the publication structure is instructive. Delayed unit-level information supports model development, monitoring and accountability, while near-real-time regional or island-level aggregation provides a useful market signal without disclosing every battery's live state of charge.

Commercial sensitivity can be managed

Haast recognises that mandatory real-time publication of each battery's state of charge could reveal commercially sensitive operating information. The Authority can address that concern through the staged framework above. Immediate publication should at least make charging and discharging observable. Unit-level state of charge can initially be published after the trading day, while near-real-time information can be aggregated. The Authority can review whether a shorter unit-level delay is justified as BESS penetration and market impact increase.

Requested response

Haast asks the Authority to incorporate these publication outcomes into the wholesale BESS decision, Code drafting, software specifications and implementation plan. In particular, a public split of BESS charging from other GXP load should be treated as an immediate operational data improvement rather than waiting for the full long-term state-of-charge constraint solution.

We also recommend that the Authority coordinate this work with the System Operator and its MOSP roadmap so the resulting products are machine-readable, documented, historically retained and available to all participants on equivalent terms.

We would be happy to discuss the observed data gap and the practical publication fields that would allow participants to forecast, reproduce and monitor BESS behaviour more reliably.

Yours sincerely,

Phillip Anderson
Haast Energy Trading