16 January 2026

Electricity Authority

By email to: OperationsConsult@ea.govt.nz

Tēnā koe.

Re: Issues and options paper – BESS market arrangements

Thank you for the opportunity to provide input into the 'Wholesale market arrangements for battery energy storage systems: Issues and options paper'.

One of the key priorities in Contact Energy's recently announced Contact 31+ strategy is to lead and accelerate gird scale battery development. We announced an ambitious pipeline of 900MW of Battery Energy Storage Systems (BESS). This kicks off with the 100MW BESS nearing completion at Glenbrook-Ohurua. We now have an additional 400MW consented at the same site, and a further 500MW consented at Stratford.

We are doing this because BESS will be one of the most important assets to support the future of the electricity system. They will play an important role in firming renewables, improving our ability to hedge retail shape, and partially displace fast-start gas generation.

BESS will also play a significant role in addressing many of the priorities of the Authority. For example, the Risk Management Review found BESS is an effective substitute for shaped hedges and "It is likely that BESS (battery energy storage systems) will play a greater role as the marginal provider of flexibility over time as they are rolled out over the next decade".[1] They will also help support more independent generation by allowing better shaping of intermittent wind and especially solar. We therefore consider that improving the ability for BESS assets to operate efficiently is likely the single most important activity that the Authority is currently undertaking.

We appreciate the constructive way the Authority has engaged on BESS matters. However, we consider that faster implementation is necessary, and should be prioritised ahead of other work being undertaken by the Authority and Transpower. There are three actions we recommend to accelerate the implementation of code changes to ensure BESS can operate efficiently in the market.

1. As covered below there remain a number of areas where our understanding of the risks and opportunities appear materially different to the Authority's understanding. We recommend that the Authority establish a series of workshops on the matters in this consultation (and

[1] https://www.ea.govt.nz/documents/5980/Reviewing_risk_management_options_for_electricity_retailers__issues_paper.pdf, p7

hybrid BESS), so that there is an opportunity to discuss and ensure there is a common understanding across the industry.

2. Work to integrate hybrid systems should be brought forward to improve the capability of upcoming solar farms.
3. Increase scrutiny on the implementation timeframes for Transpower. There appears to be little interrogation from the Authority on whether a 17-month implementation period is reasonable, and no explanation given for why such an extended period is necessary. This is in stark contrast to other consultations from the Authority, which have pushed other parts of the sector into extremely challenging (and in some cases unrealistic) implementation timeframes for interventions with much less importance to the efficient operation of the market.

We provide detailed feedback on the proposals in this consultation paper in the attached response to consultation questions. In summary we:

- support requiring dispatchable bids while charging. To support this we propose including parasitic load tolerance (±X MW) in dispatch rules.
- recommend removing gate closure for BESS to align with the treatment of wind and solar. If this is not possible we recommend shortening gate closure to 15 minutes for BESS to align with Australia. We consider that this is necessary to maximise the efficiency of the operation of BESS within the market.
- do not support the proposed changes to constrained off payments. The harm considered by the Authority is not aligned with BESS operators incentives, and there would be an opportunity cost of a BESS is ever constrained off from charging.

Ngā Mihi

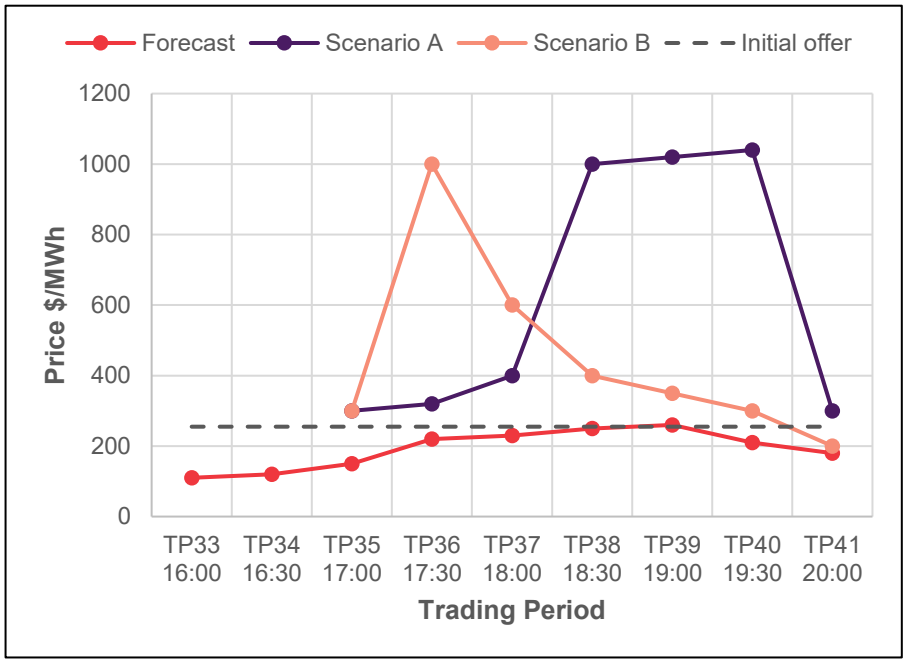
Brett Woods
Head of Regulatory and Government Relations
Contact Energy

Responses to consultation questions

Questions	Comments
Understanding the characteristics, benefits and future operation of BESS	
Q1. Do you agree we have sufficiently identified the unique characteristics of BESS to assist in developing appropriate arrangements?	Yes we agree that the paper accurately identifies the unique characteristics of BESS
Q2. Do you have any views on how BESSs should be defined in the Code?	
Q3. Do you agree that BESS can deliver the benefits described? Are there any other benefits that will assist us in assessing the size of benefits of different arrangements?	We agree with the arbitrage and ancillary service benefits from BESS as described by the EA.
Q4. Do you agree with our description of how BESSs are likely to operate and how this will change over time? If not, why?	
Q5. Do you have any other insights about potential	We consider hybrid co-location behind a single GIP to be an important feature of the future of BESS. We note that the

Questions	Comments
BESS operation that will help with assessing the benefits of our options?	Authority intends to address this in the future, but we ask that that work is given priority.
Dispatch requirements for BESS when charging	
Q6. Do you agree with the way we have framed the issues?	Yes, we agree with the description of this issue.
Q7. Do you agree with the Authority's preferred option? If not, what are alternative options that would better address the issues? Are there any particular risks with our preferred option that you would like to identify?	We support requiring dispatchable bids while charging. To support this we propose including parasitic load tolerance (±X MW) in dispatch rules.
Bids and offers forms for BESS	
Q8. Do you agree with how we have framed the issues?	We are unsure of the benefits of this change, for example whether it improves the ability of BES to offer MFK. We are interested in exploring this further with the Authority. However, we note that a combined offer form may also conflate ILR and NSGR, which may create its own issues.
Q9. Do you agree with out preferred options? If not what other options would better address the issues identified?	We support this change if there is an identifiable benefit. We note that simply tidying up the offer forms would not improve our ability to offer BESS and would impose costs on us because we would need to make changes to internal systems, and undertake additional testing (which would need to occur while our first BESS is live in the market).

Questions	Comments
Q10. Do you think further restrictions to BESS participation in MFK under the current arrangements would have any effect on their participation?	We consider that MFK selection should be enhanced so BESS can participate at idle or while charging, while also ensuring that the status quo MFK (while discharging) won't be removed.
Balancing flexible trading with security needs	
Q11. Do you agree the issues identified by the Authority are worthy of attention? If so, do you agree with our framing?	Yes, we consider the challenges with gate closure are the most material issue considered in the consultation paper. Current rules materially curtail the value of BESS to the market.
Q12. Do you agree that BESS should have the same arrangements when charging and discharging, and that embedded BESS should have the same arrangements as grid connected BESS?	Yes, we agree that there should be the same arrangements with charging and discharging. We agree that embedded and grid connected BESS should be treated the same. The consultation paper notes that currently embedded BESS are small and unlikely to have market power. However, there is no reason that this will continue to be the case. An operator could build out a large number of embedded BESS to take advantage of the different treatment.
Q13. Do you agree with our preferred new arrangements for BESS?	We recognise that in some cases a state of charge constraint may improve the ability to efficiently offer BESS. However, we consider that there are a broader set of incentives on BESS operators than considered by the Authority, which will mean that conservative offers will remain prevalent even with a state of charge constraint.
Q14. Do you see any issues with how we have defined	

Questions	Comments
state of charge constraints?	Because forecasts are dynamically changing throughout the day, BESS operators will be attempting to use their limited charge volumes to dispatch when the need is greatest – and thereby optimally reduce system stress. This is shown in the diagram below. It shows two different ways that prices can move and there's no way for a single set of offers to efficiently handle both situations. The BESS will either discharge early, missing the highest price of the day, or it will be restricted and unable to discharge fully when most needed.  The Forecast line is the forecast available at 4pm, whereas Scenario A and Scenario B are the final prices, which are observed / locked-in just after 5pm, meaning that offers and bids for 4pm, 4:30pm and 5pm are all locked in at that point. The grey dashed line is the offer price locked in for periods TP35/36, with the BESS not being scheduled to discharge. Entering with 100MWh of storage, without SoC constraints, there would be full discharge of the BESS under both scenarios before 6pm. This is optimal for Scenario B, but not for Scenario A. On the other hand, if there was a 50MWh lower bound for the SoC for these periods, then Scenario A would be closer to optimal, since the energy is stored for the highest price

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	periods, but the 5:30pm peak in Scenario B would not be fully captured, and the market would face a greater degree of scarcity than necessary. We consider that this more complex set of incentives means that operators are likely to offer conservative SoC constraints to hedge their bets against short and near term opportunities. Without gate closure, both scenarios could have been optimally managed.
15. Do you agree that the benefits of state of charge constraints likely outweigh the costs?	While a state of charge constraint would address the narrow issue identified by the Authority, it does not address the key incentives on BESS operators to offer conservatively. For that reason we consider the benefits are likely to be smaller than anticipated by the Authority. We also note that implementing a state of charge constraint would require us to adapt systems, and test new trading strategies etc. This would impose an implementation cost, while the bulk of the issue would remain unresolved.
Q16. Do you agree with how we have characterised the differences between various options?	
Q17. Are there any other options that you think would better achieve the gate closure objectives?	Our strong preference remains to remove the gate closure requirements for BESS. In support of this we note: • Concerns around gaming can be addressed by the trading conduct rules. • The system stability impact of BESS is likely to remain less than the system impact of sudden changes in intermittent renewables. If the volatility of more than 1,200MW of wind can be managed, we are unsure why the volatility of 335MW of batteries cannot. • Removing gate closure will allow BESS to better react to counteract changes in intermittent generation, thereby reducing system volatility, not increasing it.

Questions	Comments
	• As covered above, removing gate closure means BESS can provide more capacity when needed most, reducing total system costs, and better supporting the business cases for BESS investment. We note the concerns from Transpower that shortened gate closure will make it harder to assess system security risks and put in place mitigations. However, these risks are described vaguely, and the situations where system security risks could arise are not described. There is also no indication that these assertions from Transpower have been rigorously tested by the Authority. We consider it important that these risk situations are considered in more detail to determine if they are plausible, and likely to occur frequently enough to justify curtailing the efficient operation of BESS. We also consider it important to ensure that Transpower has considered alternative technology solutions. There have been material improvements in technology and AI since the introduction of one hour gate closure in 2017. We note that similar concerns were raised by Transpower when gate closure was shortened from two hours to one hour, but have been successfully navigated.[2] If, after this more detailed assessment, eliminating gate closure for BESS is still considered too risky, then we propose shortening gate closure to 15 minutes. This aligns with the gate closure period in the NEM in Australia, indicating it is a practical and feasible timeframe.[3] This will allow substantially more efficient use of BESSs, and is likely sufficient time to detect and respond to any stability issues, or potential gaming.
Q18. Do you consider an interim solution is necessary? If so, do you agree with the potential solution we suggested?	We support interim measures to ensure BESS are able to operate more efficiently in the market sooner.

[2] https://static.transpower.co.nz/public/plain-page/attachments/_TP_Sub_Gate_Closure_19Aug2015.pdf?VersionId=XQ9ipGQHPZN06n.nUXUvFhMEZzfEToCG

[3] https://www.aemo.com.au/energy-systems/electricity/wholesale-electricity-market-wem/participate-in-the-market/information-for-current-participants/gate-closure

Questions	Comments
Q19. Do you have any information that can help us better understand the benefits and costs of different options? This includes, for example, substantiating the system risks, and how to improve our modelling of benefits.	
Constrained off payments	
Q20. Do you agree the issues identified by the Authority are worthy of attention?	The discussion at paras 7.14-7.18 is difficult to follow. It jumps between bids and offers, and therefore may not capture incentives correctly. At this stage we are not sure there is an issue here that is worthy of the Authority's attention.
Q21. Do you agree with our framing of the issue?	It appears the Authority is describing a potential incentive for BESS operators to charge more often than is efficient to capture opportunities to be paid for constrained off situations. This appears extremely unlikely. Charging when prices are above a BESS operator's willingness to pay would materially harm the ability to gain value from energy arbitrage, and therefore undermine the value proposition of the asset. Very rare constrained off payments will not be sufficient to compensate for this lost arbitrage value. For this behaviour to be profit maximising a BESS operator would need to be able to predict when constrained off payments would be made. We do not consider that there is any reasonable basis on which to make that prediction with the accuracy necessary to make this highly risky strategy pay off.

Questions	Comments
	We also consider that if a BESS were ever constrained off, that this will constitute a financial harm that should be compensated for. This is because the BESS would be less charged than desired by the operator, limiting their ability to discharge in future periods. We consider this is consistent with the logic for providing constrained off payments for other load purchasers.
Q22. Do you consider having constrained off payments would affect bidding and offering behaviour from BESS?	No, we don't see any case where a BESS operator would be incentivised to alter offer behaviour to capture constrained off payments. However, the removal of constrained off payments imposes an opportunity cost by denying BESS operators the ability to charge at a price they were willing to pay. This may cause a long run efficiency loss due to the reduced profitability of operating a BESS.
Q23 . Do you agree with our preferred solution?	No, we do not consider any change is required.