23 December 2025

Electricity Authority
PO Box 10041
Wellington 6143

Via email: OperationsConsult@ea.govt.nz

Dear team,

Re: Consultation Paper— Wholesale market arrangements for battery energy storage systems

NewPower Energy Services Ltd (NewPower) appreciates the opportunity to make this submission on the Electricity Authority's consultation on wholesale market arrangements for battery energy storage systems.

NewPower, the holding company for Infratec NZ Limited (Infratec) and NewPower Energy Limited (NEL), are subsidiaries of WEL Networks Limited, New Zealand's sixth largest Distributor. Infratec, an Engineering, Procurement and Construction (EPC) company, is delivering low-carbon utility-scale solar and battery solutions at a time of unprecedented growth in New Zealand. Infratec developed and commissioned Rotohiko, NZ's first utility scale 35 MWh battery energy storage system (BESS) facility at Huntly, connected to WEL Networks' distribution assets.

By way of context for this submission, NEL is the owner, operator and trader of generation assets including the Rotohiko BESS, which operates within both Network and Grid compliance modes, and so can offer a range of network, transmission, and energy market services within NZEM's wholesale market dispatch compliance rules. This BESS is already contracted to the System Operator as an ancillary service agent for instantaneous reserves.

Infratec has also constructed and commissioned approximately 194MW of utility-scale solar farms connected to distribution networks across New Zealand for both NEL and customers, with an additional 40MW currently under construction.

Key points in our submission

In summary:

1. NewPower welcomes the Authority looking at market changes to better utilise BESS.
2. ***Dispatch requirements for BESS when charging***
    a. NewPower agrees with the Authority's preferred option provided that constrained off payments remain as BESS needs price certainty as much as possible.
3. ***Bids and offers forms for BESS***
    a. NewPower agrees that BESS should be able to offer and bid to the same market node.
    b. We do not see much benefit from combining offer forms, especially if it further prevents MFK participation by BESS in the near term.
    c. NewPower recommends implementing the proposed changes for BESS to become a single market node at the same time the MFK market changes to allow full BESS participation are made. The rationale behind this is explained in our answer to Appendix 1 – Question #10.

4. ***Balancing flexible trading with security needs***
    a. NewPower agrees with the proposed changes of BESS being able to trade in a similar way to intermittent generation paired with the state of charge constraint changes. This will allow more BESS volume to be dispatched. NewPower would like to see offers / bids to be relative to state of charge to properly prevent conservative offers / bids.
    b. NewPower does not agree with the proposed gate closure option. The main basis of this is BESS needs to accurately price it's offers. Price changes within the 1-hour gate closure can impact BESS significantly compared to other types of generators.
    c. NewPower believes that embedded BESS gate closure should not be increased. This would provide an unfair advantage to other types of embedded generators.
5. ***Constrained off payments***
    a. Newpower does not agree with the preferred solution. NewPower believes that constrained off payments should remain for BESS. BESS are sensitive to market price twice for the same "packet" of energy, as-such BESS needs more price certainty and not less.

NewPower welcomes discussion with the Authority on any points in our submission that the Authority would like, either further clarification or information.

Yours Sincerely,

David Barnett
CEO
NewPower Energy Services Ltd

Appendix 1: NewPower's response to the consultation questions

Question	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, NewPower believes the Authority has identified most of the unique characteristics of BESS. NewPower would like to highlight that BESS will generally have warranty restrictions that will impact operation more than standard loads and generators.
Q2. Do you have any views on how BESS's should be defined in the Code?	In NewPower's view BESS should be defined in such a way that allows BESS to be fully utilised to provide benefits to the market. It may be difficult to do this without creating a separate BESS class of generator 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?	NewPower agrees with the stated benefits. NewPower would like to point out additional benefits that BESS can provide such as smoothing out intra trading period 5-min pricing, faster reserves (1 second or less), intermittent generation firming, synthetic inertia (grid forming BESS). Also, BESS can provide peak generation capacity in an efficient manner, moving energy from periods of oversupply to periods of undersupply.
Q4. Do you agree with our description of how BESS's are likely to operate and how this will change over time? If not, why?	NewPower agrees with the general description of how BESS are likely to operate. NewPower also agrees that how BESS will operate will change over time as the market evolves and new market products become available. BESS technology will also evolve overtime which will unlock further capability, i.e. significantly higher throughput.

Q5. Do you have any other insights about potential BESS operation that will help with assessing the benefits of our options?	BESS operation will depend on the revenue strategy of the BESS. A BESS could operate fully on the spot market, or it could have contracted service / products in the revenue stack as well. As stated by the Authority BESS are highly flexible assets. There are several capabilities of BESS that are not being utilised that will provide benefit to the power system. Such as fast smoothing out intra trading period 5-min pricing, faster reserves (1 second or less), intermittent generation firming, synthetic inertia (grid forming BESS). NewPower believes that if the Authority creates these services / products BESS will operate and participate in these.
Dispatch requirements for BESS when charging	
Q6. Do you agree with the way we have framed the issues?	Yes, NewPower understands and agrees with the framed issues.
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?	Yes, NewPower agrees with the Authority's preferred option provided that constrained off payments remain. As BESS needs price certainty as much as possible. NewPower's Rotohiko BESS always utilises dispatchable demand for its charging bids.
Bids and offers forms for BESS	
Q8. Do you agree with how we have framed the issues?	NewPower agrees with the issues outlined.
Q9. Do you agree with out preferred options? If not what other options would better address the issues identified?	NewPower agrees that BESS should be able to offer and bid to the same market node. Regarding combining the offer forms, NewPower would like to highlight there will be costs to change existing BESS trading systems.
Q10. Do you think further restrictions to BESS participation in MFK under the current arrangements would have any effect on their participation?	NewPower think's this could potentially halt BESS participating in the MFK market in the near future.

	Consider the scenario where large amounts of intermittent generators built in the next year cause higher volumes of MFK to be dispatched. This could justify BESS entering the MFK market even with suboptimal functionality for BESS right now. NewPower recommends that the Authority **holds off** on the single offer form and implements it at the same time as the MFK changes to allow BESS to fully participate in the MFK market. In NewPower's view it is key that BESS is fully operational in the frequency keeping market to support the power system. We also believe the frequency keeping product needs an overhaul to make it more flexible and easier to participate in.
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?	NewPower agrees that the current gate closure rules do not take into account BESS characteristics and leads to conservative offers / bids. NewPower disagrees with the Authority's view that distribution connected BESS are less efficient than grid connected BESS. Distribution connected BESS can be connected close to load therefore minimising transmission losses, also distribution connected BESS can provide peak support services to both the distribution network and the grid. NewPower's view is that gate closure for distributed BESS should stay as is.
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?	NewPower believes that it makes sense for BESS to have the same gate closure arrangements for charging and discharging. NewPower believes that embedded BESS gate closure should not be increased. This would provide an unfair advantage to other types of embedded generators. Also, NewPower does not believe that a longer gate closure period for BESS provides the System Operator with much

	more certainty as it is extremely difficult to predict where a BESS state of charge will end up at the end of gate closure.
Q13. Do you agree with our preferred new arrangements for BESS?	NewPower agrees with the introduction of BESS being able to trade in a similar way to intermittent generation paired with the state of charge constraint changes. But NewPower would like the concept to be worked out further and to consider that some state of charge ranges are worth more than others (otherwise it could still lead to conservative offers / bids for BESS).. . NewPower would like to highlight that there is always some uncertainty on the state of charge calculation and this needs to be accounted for. NewPower does not agree with the proposed gate closure option. The main basis of this is that BESS needs to accurately price it's offers. Price changes within the 1-hour gate closure can impact BESS significantly compared to other types of generators.
Q14. Do you see any issues with how we have defined state of charge constraints?	NewPower supports the concept, but in reality, some state of charge ranges are more valuable than others. NewPower would like to see a system where bids and offers can be relative to the state of charge of a BESS. Also NewPower would like to highlight that that state of charge needs to be reported accurately and the state of charge constraints are as unrestrictive as possible. Also, NewPower would like to highlight that BESS state of charge data should be kept confidential within the SO. It can reveal the trading position of other BESS.

Q15. Do you agree that the benefits of state of charge constraints likely outweigh the costs?	NewPower thinks there is a high likelihood that the state of charge constraints change will have a positive cost benefit in the long term.
Q16. Do you agree with how we have characterised the differences between various options?	Yes.
Q17. Are there any other options that you think would better achieve the gate closure objectives?	The Authority's preferred options appear to address the quantity (MW) gate closure BESS issue, but it does not help address the pricing gate closure for BESS. BESS is exposed to market prices for both charging and discharging, so having a longer gate closure for BESS means more uncertainty for BESS on optimal offer / bid prices (i.e. less accurate forecast further out).
Q18. Do you consider an interim solution is necessary? If so, do you agree with the potential solution we suggested?	Yes, NewPower believes that the most practical interim solution is for the Authority to produce a guidance document on how BESS can trade considering gate closure in the status quo. The key guidance needs to cover what a BESS can consider as "reasonably unforeseeable" when it comes to making Bonafide offers and bids. If BESS can consider a price "significantly" different from forecast a reasonably unforeseen circumstance, then BESS trading can be more efficient in the interim.
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.	NewPower suggests that the Authority looks at the accuracy of market provided price forecasts when modelling BESS gate closure scenarios. BESS needs accurate price forecasts to be able to be utilised properly, so the final gate closure period for BESS needs to consider this fact.
Constrained off payments	
Q20. Do you agree the issues identified by the Authority are worthy of attention?	NewPower argues that BESS should be compensated for not having charged as much as it should have given its bid price (constrained off

	payments). It is important that BESS can charge enough to be able to provide generation at peak times. NewPower would like to highlight that if the NZ market had 5-minute trading periods the need for constrained payments would be mostly eliminated. Also having 5-minute trading periods would have further benefits to BESS and the overall market.
Q21. Do you agree with our framing of the issue?	No NewPower does not agree with the framing of the issue. We don't think the Authority has explained why BESS receiving constrained off payments is an issue, other than the Authority stating they don't believe BESS should receive them.
Q22. Do you consider having constrained off payments would affect bidding and offering behaviour from BESS?	NewPower believes that **not** having constrained offer payments may make BESS bid higher quantities to ensure required charge levels are reached.
Q23. Do you agree with our preferred solution?	Newpower doesn't agree with the preferred solution. NewPower believes that constrained off payments should remain for BESS. BESS are sensitive to market price twice for the same "packet" of energy, as-such BESS needs more price certainty and not less.