



18 December 2025

Electricity Authority  
PO Box 10041  
Wellington 6143

Via email: [operationsconsult@ea.govt.nz](mailto:operationsconsult@ea.govt.nz)

### **Consultation Paper – Wholesale market arrangements for battery energy storage systems**

The WEL Networks appreciates the opportunity to provide feedback on the above consultation.

WEL Networks (WEL) is New Zealand's sixth largest electricity distribution company and is 100% owned by our community through our sole shareholder WEL Energy Trust. Our guiding statement of strategic intent is to be leading Waikato's energy future, and we work to ensure that our customers have access to reliable, affordable, and environmentally sustainable energy.

WEL broadly agrees that battery energy storage systems (BESS) offer significant benefits, including peak demand management, improved grid efficiency, and reduced need for costly infrastructure upgrades. However, current market paradigms—based on participants being either generators or purchasers—are outdated. We feel creating a new category for BESS that reflects its dual role as both consumer and generator, with clear obligations for charging, discharging, and idle states is justified.

WEL believes focus should be on flexibility over prescriptive rules. We oppose mandatory state-of-charge constraints and extended gate closure periods, as BESS owners are best placed to manage operational decisions given their commercial obligations outside the wholesale market, such as network services and power purchase agreements. Shorter gate closure times and improved system operator processes are preferred to enhance responsiveness. Additionally, WEL supports constrained-off payments for BESS, aligning with principles applied to dispatchable loads, as these would incentivize full capability offers and mitigate lost arbitrage opportunities.

Our responses to the specific questions sought by the Authority are attached and should you require clarification on any part of this submission, please do not hesitate to contact me.

Yours sincerely

A handwritten signature in blue ink that reads 'Andrew Maseyk'.

Andrew Maseyk

**Regulatory Specialist**

M +64 21 984 347 DDI +64 7 850 3375

E [andrew.maseyk@wel.co.nz](mailto:andrew.maseyk@wel.co.nz)



<i>Understanding the characteristics, benefits and future operation of BESS</i>	
Q1. Do you agree we have sufficiently identified the unique characteristics of BESS to assist in developing appropriate arrangements?	Yes.
Q2. Do you have any views on how BESSs should be defined in the Code?	As a new participant that recognises they can be both a generation and load entity.
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?	Management of regional peaks is another benefit. The colocation of BESS with other generation allows excess generation to be stored when there is insufficient grid capacity. This avoids the need for costly grid upgrades.
Q4. Do you agree with our description of how BESSs are likely to operate and how this will change over time? If not, why?	Generally. BESS owners may be reluctant to provide frequency keeping services if they have to pay for energy when charging so recovery of purchase costs would need to be included in the offer price. Other generation does not face this cost.
Q5. Do you have any other insights about potential BESS operation that will help with assessing the benefits of our options?	In the derivative space BESS can provide an overnight buy price where retailers are often long CFD's and sell back a peak product to give the retailer shape cover. They are also well suited to covering the risk of selling the EA's super peak product
<i>Dispatch requirements for BESS when charging</i>	
Q6. Do you agree with the way we have framed the issues?	No. The framing is based on the old paradigm of a participant being either a generator or a purchaser. A new category for BESS that defines obligations when charging, discharging and being idle should be pursued.
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?	No. A new category for BESS that defines obligations when charging, discharging and being idle should be pursued. There is a general danger of the Code not keeping up with advances in technology leading to inefficiencies.
<i>Bids and offers forms for BESS</i>	
Q8. Do you agree with how we have framed the issues?	Mostly, limitations of the MFK selection tool are not detailed nor is there an outline when they will be addressed. MFK should be co-optimised along with energy and reserve in SPD, based on a \$/MWh offer price.



Q9. Do you agree with our preferred options? If not what other options would better address the issues identified?	A bidirectional offer for energy and reserve is the correct option.
Q10. Do you think further restrictions to BESS participation in MFK under the current arrangements would have any effect on their participation?	Yes the MFK selection process as it stands limits the ability of smaller participants from being selected. Without a change to the selection process to allow marginal clearing of tranches, then smaller providers are simply locked out of the market.
<i>Balancing flexible trading with security needs</i>	
Q11. Do you agree the issues identified by the Authority are worthy of attention? If so, do you agree with our framing?	<p>WEL agrees with issues identified, but not with the framing.</p> <p>BESS connecting to distribution networks will be much smaller in size (compare Rotohiko with grid connected BESS) and have less ability to set market prices. The smaller size of embedded BESS means that uncertainty around future operation due to limited storage is much less than the uncertainty caused by grid connected BESS. An after-diversity security assessment of multiple small embedded BESS may provide a better outcome than treating each BESS individually e.g. the System Operator can rely on a certain portion of the embedded BESS being able to deliver.</p> <p>A BESS connecting to a distribution network already sees price signals in respect of increased distribution losses through the application of loss factors. Consumers could be better off if the connecting BESS reduces distribution losses.</p> <p>State of Charge is only one constraint factor on offering at maximum charging and discharging rates. BESS may have other considerations for limiting charging and discharging rates at certain times such as transmission and distribution demand-based or injection-based charges.</p> <p>BESS may have commercial obligations (e.g. to generate at certain times in regard of a PPA) independently of the wholesale market. There is a risk that state of charge constraints and offering at maximum charging and discharging rates will affect the ability of the BESS to meet its contractual requirements.</p> <p>The limited storage characteristic of the BESS suggests shorter gate closure periods will be more beneficial.</p>
Q12. Do you agree that BESS should have the same arrangements when charging and discharging, and that	Yes. They both should have half hour gate closure.



embedded BESS should have the same arrangements as grid connected BESS?	
Q13. Do you agree with our preferred new arrangements for BESS?	<p>No. It is not obvious that there is a material benefit in improved market outcomes by BESS trading at full capacity rather than trading conservatively. There are large impacts on warranties which generally only allow operation above 90% capacity a small number of times a year.</p> <p>It should be note that BESS may have obligations outside the wholesale market (e.g. providing network services) which mean the BESS capability is less available for the wholesale market. The BESS owner is the best party to manage the operation of the BESS through by offering and bidding into the market as determined by the obligations upon the BESS.</p>
Q14. Do you see any issues with how we have defined state of charge constraints?	<p>BESS can operate outside the market e.g. providing ancillary services to distributors or power purchase arrangements with retailers and may wish to reserve state of charge capacity for these purposes. BESS owners need to be able to specify maximum and minimum charge. Embedded BESS may face TOU charges and demand-based distribution charges that will affect planned operations.</p>
Q15. Do you agree that the benefits of state of charge constraints likely outweigh the costs?	No. BESS owners have more information about the ability of the BESS and should be left to manage BESS operation.
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?	Shorter gate closure times can be achieved by the system operator improving the speed of security checks.
Q18. Do you consider an interim solution is necessary? If so, do you agree with the potential solution we suggested?	No. The additional work burden on the system operator may delay any implementation.
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.	
<i>Constrained off payments</i>	
Q20. Do you agree the issues identified by the Authority are worthy of attention?	Yes.
Q21. Do you agree with our framing of the issue?	<p>No.</p> <p>The rationale for dispatchable load purchasers to receive constrained off payments is to compensate for profits they could have made if not they had not been dispatched down. This is the same for BESS.</p> <p>BESS need to ensure their SOC at a time in the future is sufficient to meet to their future planned operation (e.g. arbitrage). If a BESS is constrained off and the target SOC is not achieved, then future profits cannot be realised.</p>
Q22. Do you consider having constrained off payments would affect bidding and offering behaviour from BESS?	Yes. BESS would be more inclined to offer full capability knowing that they will receive some compensation should they be constrained off.
Q23 . Do you agree with our preferred solution?	No.

