

Submission – EA consultation on Battery Energy Storage Systems Offering Instantaneous Reserve

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Summary

We strongly support this initiative to enable batteries to provide reserves. We note the consultation focuses on grid-scale batteries and we encourage the Electricity Authority and the System Operator to move quickly to enable distributed batteries to provide reserves.

For example, it should be relatively straight forward to aggregate distributed batteries to a nominated GXP just as interruptible load (IL) is currently aggregated to a nominated GXP. An approach like this ought to be able to be implemented quickly with minimal changes to the Electricity Code, the Policy Statement developed under the Code, the Ancillary Services Procurement Plan and relevant system operation software.

Q1 Do you agree the issue identified by the Authority is worthy of attention

Absolutely. The amount of batteries in power systems is increasing rapidly internationally and in New Zealand. Other jurisdictions, such as Australia and PJM in the US, have recognised the useful role batteries can play in power system management. An update of the instantaneous reserve rules to enable batteries is timely, if not overdue.

Q2 Do you agree with the objectives of the proposed Code amendment

Yes, with the exception that the word “grid-scale” should be removed, i.e. enabling distributed batteries, for example, via aggregating at particular GXP as per IL is currently managed.

Q3 Do you agree the benefits of the proposed amendments outweigh its costs?

Absolutely. Batteries have the potential to provide more precise and accurate management of power system stability. Batteries provide software-based, quick acting reserves. Using spinning equipment, such as partially-loaded hydro is not a good use of what in reality should be generation plant – batteries can provide a better service.

Q4 Do you agree the benefits of the proposed amendment outweigh its costs

Yes, particularly if the whole paradigm of reserves is reviewed in the future and new approaches developed that reflect the capability of new technology, such as responding to the rate of change of frequency. Enabling batteries is the first step towards a more modern, more reliable and more cost-effectively reserves management system.

Q5 Do you agree the Authority’s proposed amendment complies with section 32(1) of the Act?

Yes

Q6 Do you have any comments on the drafting of the proposed Code amendment?

No. The changes appear well thought through.

Q7 Do you have any comments on the drafting of the proposed procurement plan amendment?

No. The changes appear well thought through.

Comment

We welcome work beginning on changes to the Code and the Procurement Plan, if any are needed, to enable distributed batteries to offer instantaneous reserves. The changes proposed are all a step in the right direction and support batteries per se, be they grid connected or embedded in the distribution network.