



TRANSPOWER

Keeping the energy flowing

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Electricity Authority
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By email battery@ea.govt.nz

Battery energy storage systems offering instantaneous reserve

Transpower welcomes the opportunity to respond to the Electricity Authority's (the Authority's) consultation on battery energy storage systems offering instantaneous reserves.

We look forward to assisting the Authority to deliver the ability for battery energy storage systems to offer their full capability as instantaneous reserve. We also look forward to assisting the Authority to develop the scope of work to "develop provisions for reliable, coordinated and secure operation of inverter-connected distributed energy resources, enabling aggregation of smaller distributed BESS as potential providers of ancillary service."

We provide our response to the Authority's questions in Appendix 1.

Yours faithfully,

Joel Cook

Regulatory Affairs and Pricing Manager

Appendix 1

#	Questions	Response
1	Do you agree the issue identified by the Authority is worthy of attention?	Yes.
2	Do you agree with the objectives of the proposed Code amendment? If not, why not?	Yes.
3	Do you agree the benefits of the proposed amendment outweigh its costs?	Yes.
4	Do you agree the proposed amendment is preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objective in section 15 of the Electricity Industry Act 2010.	Yes.
5	Do you agree the Authority's proposed amendment complies with section 32(1) of the Act?	Yes.
6	Do you have any comments on the drafting of the proposed Code amendment?	<p>Yes.</p> <p>We recommend the following drafting for the definition of fast instantaneous reserve:</p> <p>Fast instantaneous reserve means—</p> <p>(a) for providers of partly loaded spinning reserve and tail water depressed reserve, the additional capacity <u>the increase in generation or reduction in load (in MW) provided by instantaneous reserve no later than 6 seconds and measured at 6 seconds</u> after the start of a "Contingent Event" (as defined in the policy statement) <u>and that is sustained until at least 60 seconds after the start of the "Contingent Event" for a period of at least 60 seconds;</u> and</p> <p>(b) for providers of interruptible load, the drop in load (in MW) that occurs within 1 second of the grid system frequency falling to or below 49.2 Hertz that is sustained for a period of at least 60 seconds</p>

#	Questions	Response
		<p>We note the terms demand, load, and consumption are used in various places in the Code and Procurement Plan in an interchangeable manner. Only demand is currently a defined term in the Code (as ‘the rate of consumption of electrical energy’). We suggest consideration is made to standardise the terminology used when detailing the same thing.</p> <p>For example:</p> <p>The definition of interruptible load uses “demand....reduced”, the definition of fast/sustained instantaneous reserve uses “reduction in load”, and clause 13.44(1)(c) uses “consumption available to be reduced”.</p> <p>We also note that some additional value could be added by simplifying the wording of some of the existing clauses. For example, we consider that Clause 13.40 could be amended to without losing its intent:</p> <p style="padding-left: 40px;">Bids and reserve offers of interruptible load are inter-related in that demand electrically connected interruptible load, in response to an under-frequency event and in accordance with a dispatched reserve offer, may lower the quantity purchased at that grid exit point. Accordingly, a purchaser does not breach the reasonable estimate requirement in clauses 13.7(3), 13.7AA(2), and 13.8A(4) if the purchaser is acting as an ancillary service agent and reduces corresponding demand in response to an under-frequency event in accordance with a dispatched reserve offer.</p>
7	Do you have any comments on the drafting of the proposed procurement plan amendment?	<p>Yes. Further to the above comments on ‘demand, load, and consumption’ we note clauses B32.1.2.1 and B32.1.2.2 both use “the drop in load”.</p> <p>We also observe the adjective used to describe the action of interruptible load is ‘drop’ in the Procurement Plan clauses B32.1.2.1 and B32.1.2.2 and reduced/reduction in the Code definitions of interruptible load, fast/sustained instantaneous reserve, and clause 13.44(1)(c). We recommend these terms should be standardised too.</p>