



6 May 2021

Submissions
Electricity Authority

By email: battery@ea.govt.nz

Battery energy storage systems offering instantaneous reserve

Meridian appreciates the opportunity to provide feedback on the Electricity Authority's proposal to amend the Code to include battery energy storage systems (**BESS**) as a new type of instantaneous reserve. We understand that this is a first step that can be taken with minimal complexity but that a subsequent, wider review will investigate the future needs of the power system and how these needs could be met by the full range of services provided by technologies such as BESS.

Meridian agrees that there is currently a gap in the Code because ancillary service providers are precluded from offering a BESS as instantaneous reserve. The Code has not been updated to reflect technological developments. A BESS can provide a useful reserve response to an unexpected fall in frequency following a grid event. However, the Code limits reserve providers to interruptible load (**IL**), partly loaded spinning reserve (**PLSR**) and tail water depressed reserve (**TWDR**). The Code therefore enables a BESS to provide IL when charging but fails to allow for forms of 'injectable' instantaneous reserve other than PLSR and TWDR.

Meridian strongly supports correcting this deficiency in the Code and considers the benefits to consumers that would result to far outweigh any costs.

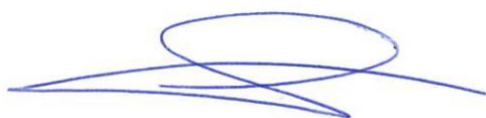
Meridian supports the generalisation of the meaning of "instantaneous reserve" so that it refers to interruptible load and "generation reserve", where "generation reserve" is itself

defined as including PLSR, TWDR and instantaneous reserve provided by a BESS. Alternatively, a simpler and clearer drafting option would be to amend the definition of instantaneous reserve to list IL, PLSR, TWDR, and injection from a BESS. This avoids the layering of definitions through the new term “generation reserve”.

Meridian’s responses to the consultation questions are included in Appendix A.

Please contact me if you have any queries regarding this submission.

Yours sincerely

A handwritten signature in blue ink, consisting of several overlapping loops and a long horizontal stroke extending to the left.

Sam Fleming
Manager Regulatory and Government Relations

Appendix A: Responses to consultation questions

	Question	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. However, it is a short term solution. In the longer term the Code should be technology neutral to the extent possible and enable instantaneous reserves to be provided from any technology that can be proven to meet the required specifications.
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?	Rather than amending "instantaneous reserve" to refer to "interruptible load" and "generation reserve", and then creating a new definition for generation reserve that including PLSR, TWDR and instantaneous reserve provided by BESS, a simpler option to achieve the same outcome could be to amend the definition of instantaneous reserve to list IL, PLSR, TWDR, and injection from a BESS. This avoids the layering of definitions through the new term generation reserve.
7.	Do you have any comments on the drafting of the proposed procurement plan amendment?	Not at this stage. The drafting of the Procurement Plan appears reasonable, but we will consider this again when the System Operator consults on the change.