Via email: fsr@ea.govt.nz

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Future security and resilience: Phase 2 draft road map

Mercury welcomes the opportunity to provide feedback to the Electricity Authority (the Authority) on Transpower's draft *Roadmap to achieve the future security and resilience of the New Zealand power system,* March 2022, (Draft FSR Roadmap).

Mercury notes that the intent of the Draft FSR Roadmap is to provide, amongst other things, a schedule of when the activities to address the opportunities and issues identified previously can be carried out. It is phase 2 of the Authority's future security and resilience workstream, which in turn is interrelated with the other workstreams that are set out in the Authority's broader Energy Transition Roadmap[1]:

(a) Examining wholesale market operation under 100% renewables
(b) Updating the regulatory settings for electricity distribution networks
(c) Implementing real-time pricing in the electricity wholesale market
(d) A new Transmission Pricing Methodology
(e) Faster reform to efficient electricity distribution pricing

Mercury agrees in general with the Draft FSR Roadmap. However, Transpower's discussion paper does not clearly identify how the Draft FSR Roadmap fits into the broader scheme of the Energy Transition Roadmap.

Mercury's key concern is that this omission raises the risk that Draft FSR Roadmap may generate activities that are misaligned with the activities undertaken in the other workstreams. At best this would result in an inefficient use of limited resources. Misaligned activities, however, could also raise a further risk that the different workstreams reach different conclusions regarding the same underlying opportunities and issues, leading to unintended outcomes. In addition, failing to take a comprehensive view raises the risk that key activities may be missed.

Mercury proposes that in order to help mitigate these risks the Draft FSR Roadmap should be mapped *top-down* against the other workstreams set out in the Energy Transition Methodology. Mercury considers that Transpower's *bottom-up* approach for deriving the Draft FSR Roadmap provides a sound starting point, but it is incomplete.[2] The Draft FSR Roadmap should also be mapped against the other workstreams in order to identify overlaps, gaps, and key dependencies. This information could then inform a more robust timeline of activities and reduce the risk of misalignment of activities and unintended outcomes.

An example of a potential misalignment that a top-down mapping would help identify relates to the *Managing reducing system inertia* item set out on the timeline on page 9 of the Draft FSR Roadmap. It shows that the frequency reserve strategy would be developed within one year in 2029, and then it would be codified, procured, tested and implemented within 2030. Mercury's concern is that this timeline may not consider broader synergies in the context of the other

[1] Electricity Authority's *Future security and resilience: Phase 2 draft roadmap discussion paper,* 29 March 2022, paragraph 2.2.
[2] Draft FSR, section 4.0, *Approach for developing the roadmap*

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workstreams noted above and particularly investment incentives through appropriately designed frequency products.[3]

Mercury looks forward to engaging with the Authority and industry stakeholders on a top-down review and development of the FSR Roadmap.

Yours sincerely,

Tim Thompson
Head of Wholesale Markets

[3] Even though New Zealand is fortunate to have significant renewable synchronous generation resources at its disposal, appropriately designed frequency products (e.g. inertia, very fast reserves) could provide important incentives for investment and reinvestment in synchronous generation. Such products could also support the "value stacking" necessary for the uptake of new technologies such as battery storage, be it at grid scale or within distribution networks. If this work was sequenced to commence earlier (even if it was preliminary scoping), it could support a more efficient transition towards a 100% renewable wholesale market and efficient investment in distribution networks. Please refer to Mercury's previous submission *Future security and resilience: Phase 1 draft report*, dated 14 December, for further discussion on inertia and system strength challenges posed by non-synchronous generation.