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Commerce Commission
By email: infrastructure.regulation@comcom.govt.nz

Transpower's Net Zero Grid Pathways stage one major capex proposal: Draft decision

Meridian appreciates the opportunity to comment on the Commerce Commission's draft decision paper on Transpower's Net Zero Grid Pathways stage one (NZGP1) major capex proposal. This submission can be published in full and does not contain any confidential information.

Meridian understands that the Commission's draft decision is to approve the NZGP1 investments to:

- install reactive plant, filter banks and associated equipment to upgrade inter-island HVDC link north transfer availability from 1071 MW to closer to 1200 MW (**HVDC upgrade**);

- increase transfer capacity north from Bunnythorpe by between 60% to 90% by installing variable line rating and tactical thermal upgrade of Tokaanu-Whakamaru lines and to Bunnythorpe-Tokaanu circuits; duplex Tokaanu-Whakamaru circuits with Goat conductor; upgrading protection on Huntly-Stratford circuit; replacing the special protection scheme at Tokaanu; and splitting the Bunnythorpe-Ongarue circuit (**Central North Island upgrade**); and

- increase transmission capacity by 25% (300 MW) under typical operating conditions by installing tactical thermal upgrading on both circuits of Wairakei-Whakamaru C line and the Edgecumbe-Kawerau 3 circuit on the Ohakuri-Edgecumbe A and Kawerau-Deviation lines; and splitting the Edgecumbe-Kawerau circuit (**Wairakei ring upgrade**).

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However, the draft decision is to approve the HVDC upgrade conditional on an assurance provided by Transpower that Transpower will not commence the procurement, design, and build of the HVDC upgrade until Transpower can quantitatively demonstrate, to the Commission, positive net benefits associated with the investment. According to the draft decision, the trigger for this could be confirmation of Tiwai's departure date, modelling to show the additional redundancy benefits from the STATCOM, or more certainty in the generation mix or load forecasts.

In Meridian's opinion, approval of the HVDC upgrade should be made unconditional in the Commission's final decision because there are significant net benefits associated with the HVDC upgrade now, regardless of whether the smelter continues to operate post-2024, including:

- The additional reactive support from the HVDC upgrade will also provide redundancy to cover aging HVDC assets and increased outages. The current state and age of the HVDC voltage support equipment means significantly reduced HVDC capacity at times to complete maintenance or repair faults. There are two synchronous condensers that are on long term outages with uncertain return dates, which in combination with other maintenance, can reduce HVDC north flow capacity by more than 300MW.

- As the New Zealand power system becomes more highly renewable, the North Island will continue to have lower flexible thermal generation capacity and higher reliance on intermittent generation. This increasingly intermittent supply will require flexible firming plant during times of low wind and solar generation. The majority of the hydro firming capacity is in the South Island and ensuring HVDC capacity is not limited by reactive support equipment will therefore become increasingly important to the reliability of supply in New Zealand, particularly the North Island.

- The HVDC investment would also enable low-cost renewable generation development in the South Island with 4210MW of new capacity identified in the Transpower connection pipeline and longer-term options on top of that. The HVDC upgrade is a critical enabler to support the electrification of the New Zealand economy though renewable generation. To enable generation investment the HVDC upgrade should be a clear decision rather than an uncertainty.

As with other HVDC investments, Meridian would expect to be a significant beneficiary of the NZGP1 HVDC upgrade and therefore Meridian would expect to pay a large percentage of the associated costs under the transmission pricing methodology.[1] By our estimate, the private benefits to Meridian will exceed Meridian's share of the costs of the HVDC upgrade and we expect the same to be true for other beneficiaries of the HVDC upgrade. We would also expect to see long-term benefits to consumers from increased HVDC capacity and resiliency, firming of North Island intermittency, and enabling of low-cost South Island renewable generation.

Meridian considers it critical that the Commission's final decision on NZGP1 delivers certainty for the industry on the HVDC upgrade rather than ongoing uncertainty.

We would be happy to discuss the views in this submission with the Commission.

Nāku noa, nā

[redacted]

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[1] As an indication, for the initial allocation of historic HVDC costs under the new transmission pricing methodology Meridian was allocated 33.78% of the total costs, and for the HVDC Pole 2 Refurb project Meridian's starting allocation was 31.4%.