15 August 2022

Net Zero Grid Pathways 1 Shortlist Consultation
Transpower New Zealand Limited
P O Box 1021
Wellington

By email: nzgp@transpower.co.nz

Dear John

Re: Net Zero Grid Pathways 1 Major Capex Project (Staged Investigation) Shortlist Consultation

WEL Networks Limited (WEL) appreciates the opportunity to provide feedback on Transpower's proposed shortlist to enhance the grid backbone in the period to 2035.

We commend Transpower for the comprehensive analysis that underpins the proposed shortlist of investments. We acknowledge the work Transpower has completed, including the:

- adjustments to MBIE's EDGS to update these scenarios to a more timely view of the future
- number of options identified and analysed for each of the three areas of the grid where Transpower has identified a need to invest in the near term before constraints limit NZ's renewable electricity aspirations
- estimation of Net Benefits over 72 possibilities over the period to 2050 (the matrix of 18 Options and 4 scenario weightings), and
- information provided to stakeholders on indicative transmission charges after allocating the cost of these investments to beneficiaries under the new TPM.

However, WEL is community-owned and concerned to ensure this significant $342 million of proposed investment in the transmission grid is well timed and cost effective.

Proposed shortlist

WEL does not have the expertise to be able to comment on whether the technical attributes of the proposed investments are fit-for-purpose for the problem Transpower is attempting to solve. However, we suggest providing the following information in section 1.2 on the overview of the need for investigation and investment would assist with justifying the need to enhance the backbone grid in the near term:

- information about the capacity of new generation that each of the three proposed investments would enable relative to the status quo
- more detail on the current constraints on the network and how these develop over time (such that the constraints need to be addressed now).

WEL is concerned that the Net Benefit of the shortlist of HVDC, CNI and Wairakei Ring (WR) options (presented in Table 20) has very few positive values across the 18 options and 4 scenario weightings – only 9 of the total 72 options in the matrix (12.5%) are positive.

Option 10 has the highest Net Benefit across 3 of the 4 different scenario weightings. This Net Benefit sums to $94 million (adding the positive PV Net Benefits together) over the period to 2050. Option 12 is the only other Option that has a positive value across 3 of the 4 scenario weightings (total $80 million over the period to 2050).

WEL queries whether these results indicate the Net Benefit value of these investments at this time is 'marginal'? Is this an indicator that the proposed transmission investment is being built too far ahead of need; the investment is unlikely to be required because the demand forecasts are too low; or the uncertainty regarding timing and location of new generation build impacts the outcomes of this analysis? WEL understands the Electricity Authority has commissioned analysis of new build intentions.[1] This analysis could be useful for Transpower before it submits its MCP. Or maybe the connection queries Transpower is receiving are more informative or certain than any EDGS or generation stack analysis.

Table 2 lists all the proposed projects for NZGP1. Five of the seven preparedness and investigation projects are scheduled to be completed in 2023. WEL queries if this significant workload over a 12 months period is realistic and would delays in any of these projects have flow on consequences for completion of the enhancements to actual grid assets?

Footnote 6 on page 10 states: "*Some parts of the 110kV network in the lower and central North Island also constrain. These will be dealt with separately and are assumed to be in place for the purposes of this investigation*." WEL queries whether these constraints are the same as the Facilitating Projects listed in Table 2 and described in section 1.13 of the consultation paper?

Indicative charges for these investments under the new TPM

The Indicative charges report states:

> "*We note, in general, the modelling assumptions used in the NZGP1 shortlist consultation are consistent with chapter 2 of the draft assumptions book. However, there are several assumptions that are different …"* (paragraph 36)

Can we assume that the final Assumption Book will incorporate the new assumptions used for these NZGP1 indicative charges? The Draft Assumptions Book was only consulted on in May 2022. WEL queries whether the Assumptions Book can ever be a 'final' version when new relevant information comes available continuously and analysis should be based on the most up to date information.

The indicative charges report discloses allocation of covered cost for the HVDC and CNI investment using the Standard Method. However, a detailed spreadsheet (as provided by Transpower for the CUWLP) is not available. The CUWLP spreadsheet identified Transpower's estimate of the Net Expected Private Benefit for each transmission customer. WEL requests the spreadsheet be made available. This would be the first opportunity to review / compare the results of TPM modelling of total Net Expected Private Benefit with the Grid Investment Test estimate of PV Net Benefit. Should

[1] Electricity Authority Market Brief 2 August 2022 "*Meanwhile, it is intended that the next steps of the Wholesale Market Competition Review will be released next month after the Authority commissioned a report into current investment activity to help inform policy options*." https://www.ea.govt.nz/assets/dms-assets/30/Market-Brief-2-August-2022.html

the totals be the same? Or should the TPM total be larger than the GIT total so that transmission customers agree they benefit?

Non-transmission solutions (Question 2)

WEL suggests Transpower should be open to considering NTS at any stage of its investment appraisal processes to minimise the cost of electricity.

Transpower states that for its NZGP1 proposals the smallest increment increase in transmission capacity it has considered is 200MW[2]. It is not clear from the information provided if this increment is set at the appropriate level (similar to our question above about the quantum of new generation capacity that this investment enables). Progressive investment in NTS can delay the need for transmission investment.

We suggest information available at the 'long-list' stage of Transpower's capital investment regulatory process is insufficient to flush out well specified NTS options. WEL would appreciate the opportunity to discuss with Transpower an improved approach to considering NTS that meet both Transpower and NTS investors' requirements.

At this stage, Transpower is limiting consideration of NTS to options that assist in managing outages while the NZGP1 preferred investments are undertaken. WEL suggests Transpower must have to estimate the costs of these outages (and therefore the value of the NTS) prior to lodging any MCP application. WEL queries whether Transpower will be issuing a request for proposals for NTS in the next few months related to the NZGP1 projects (ie. prior to lodging the MCP application before the end of 2022)?

NZGP Phase 2

Transpower has indicated it will commence industry engagement on NZGP2 in 2023. We assume this analysis will be based on the updated EDGS scenarios also due in 2023.[3] We understand NZGP2 will look out to 2050 to identify how the grid backbone and regional interconnections need to develop to provide the required reliability and resilience. Transpower's work on NZGP2 is significant for the Aotearoa Energy Strategy due to be completed in 2024. We wonder if the future view of the transmission grid in NZGP2 is an input into the Strategy or an outcome from the Strategy?

Yours sincerely

Michelle Allfrey
GM Commercial Engagement

[2] Referred to on page 29

[3] See page 5 of the consultation paper