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Dr Brent Layton
Chairperson
Electricity Authority
Wellington

By email: submissions@ea.govt.nz

Tēnā koe Brent

This is the submission of Tauhara North No 2 Trust (TN2T) on the Electricity Authority's (Authority's) 2019 Issues Paper, part of its ongoing Transmission Pricing Review. The Trust, in partnership with Mercury, owns the Ngā Awa Purua Joint Venture (NAP). TN2T also owns and manages four blocks of land: Tauhara North 2A, Tauhara North 2B, Tauhara North 2C and Tauhara North No1 in the Tatua District, where the power station is located. These blocks of land are within the rohe (traditional tribal area) of Ngāti Tahu-Ngāti Whaoa and the Trust's owners whakapapa (descend from/connect to) that iwi.

We are very concerned at the approach to pricing the seven existing assets identified as part of the benefit-based charge. This proposal would impose on NAP, which is an existing generator, a non-recoverable cost for an existing transmission asset. In our view, opening the possibility that investors will later be confronted with a large unrecoverable cost reduces investor certainty and increases the cost of capital. This may limit future geothermal investment and expansion. This outcome, and therefore the Authority's proposal to reallocate existing asset costs, is inconsistent with the Government's climate change objectives, as reflected in the National Policy Statement–Renewable Electricity Generation and the Zero Carbon Bill.

The efficiency benefit of this reallocation is, on the Authority's analysis, subjective and, in our view, illusory. The Authority's quantitative analysis shows that the allocation of the cost of the Wairakei Ring (including to NAP) is critically dependent on the assumptions adopted. We submit that the assumptions that underpin this analysis, while perhaps convenient and necessary to enable a numerical conclusion, are not robust.

TN2T is not a portfolio generator like its competitors, it is not vertically integrated, and it does not enjoy a significant balance sheet. The effect of a reduction in free cash flow for TN2T's equity is significant. The direct effect of an increase in fixed costs for TN2T will be a reduction in our ability to deliver grants, employment, cultural support, whenua development and other beneficial programmes (such as remedial literacy and numeracy training) to owners and descendants. In the 2018/19 year we were able

to deliver grants and programmes of \$9.1 million (including administration costs); the proposed charge is a significant burden in this context. This impact of the proposed transmission pricing methodology is directly contrary to the Government's objective of improving Māori wellbeing.

The overarching rationale for the changes proposed by the Authority to the transmission pricing methodology appear to be to move to a more fixed type charge, which cannot be changed by altering behaviour within the capacity of the grid, where there is some regionalisation of transmission costs and a stronger incentive to engage with the Commerce Commission in transmission investment decisions. These objectives can be met by less controversial changes, such as those that have already been proposed by Transpower.

Change in benefits assessed

In 2016, the Authority proposed a benefit-based charge of \$0.8 million per annum for NAP based on their assessment of NAP's share of the benefits created by specific existing North Island transmission assets. The 2019 Issues Paper proposes total transmission charges to NAP of \$1.7 million, of which \$1.4 million is the assessed benefit associated with the Wairakei Ring.

In the Authority's spreadsheet that accompanies the 2019 Issues Paper, the assessed benefit derived by NAP from the Wairakei Ring varies between \$0.5 million and \$1.4 million depending on two assumptions. The first assumption relates to the wholesale electricity price adopted in the counterfactual (i.e. if the Wairakei Ring had not been constructed). The second is whether the model is based on the generation included in 'traditional vSPD' (i.e. the wholesale market model) or excludes some generation based on the Authority's judgement of what generation should be netted off load. The latter approach (which is proposed by the Authority) has the effect of reducing consumers' assumed level of benefit from the transmission network.

This process, and the various assessments of the value of the benefit supposedly derived by NAP of \$0.8 million, \$1.4 million and \$0.5 million, shows that the Authority's statement that "benefits are relatively predictable in New Zealand" is simply not true.¹

The Authority has chosen to target grid connected generators by making assumptions favourable to consumers based on its judgement.² In the case of the Wairakei Ring at least, those generators have little or no ability to pass on a cost increase to customers, as geothermal generation is rarely marginal. This means that this cost results in a wealth transfer that can have no effect on efficiency.

The Authority's different values are all based on different methods for assessing the same benefit, but it is not clear that the Authority is trying to value the right type of benefit. The Authority attempts to link

¹ This was one of the reasons advanced by the Authority to apply a benefit-based charge to existing assets in *Should beneficiaries pay for existing grid assets? Pros and cons of applying an area-of-benefit charge to recover the costs of historical transmission investments: Discussion Paper*, 8 May 2018, section 3.

² 2019 Issues Paper, Appendices, page 272.

benefit-based charges to the efficiency of investment in the grid. But Transpower invests on the basis of system benefits, not private benefits. Transpower has raised the potential for significant differences between private benefits and system benefits. The difference Transpower has identified between these two types of benefits consists of wealth transfers.³ This means that the proposed pricing of existing assets may not be consistent with the basis on which investment was made. Furthermore, the Authority says that it does not take account of wealth transfers.⁴ This statement is not consistent with the method used to determine benefits.

While we have only the summarised version of Professor Hogan's comments, there appear to be inconsistencies between his comments and applying the benefit-based charge to existing assets. Some matters that he advises avoiding appear to be integral to the design of the charge. For example, he says "[o]ften the intuition that guides the analysis of a single line is simply wrong in the case of an integrated grid. And using the single line analogy to assign transmission costs leads to perverse behaviour..."⁵ He also is quoted as saying in a teleconference: "beneficiaries-pay is a forward-looking concept."⁶ This suggests a prospective, forward-looking application of a benefit-based charge, and not a retroactive application to existing assets.

In summary, the Authority's analysis shows that there is no certainty about the size of the private benefit the Authority is attempting to assess. Furthermore, the private benefit of an asset is not the same as the system benefit on which Transpower's investment decisions are made. The result of using this process for pricing transmission would be a subjective wealth transfer away from TN2T's Māori beneficiaries.

The benefits

In our view, the assumptions made in the cost-benefit analysis mean that it is not possible to conclude that there are strong benefits from the Authority's proposal relative to the alternatives. Transpower has previously expressed the view that there are simpler, less costly options available, including some under the current TPM guidelines.⁷ This suggests that the Authority has mis-specified the baseline against which the proposal is compared, or at least that it also should have assessed the relative benefits of these simpler options.

The Authority's cost-benefit analysis makes a number of assumptions which in our view are unrealistic. For example:

³ *Transpower submission: Transmission pricing methodology 2nd issues and proposals paper*, 26 July 2016, page 14.

⁴ 2019 Issues paper, page 31.

⁵ 2019 Issues paper, page 214, box quoting Professor Hogan.

⁶ File note Teleconference between Professor W Hogan of Harvard University and the Electricity Authority, 17 May 2018, page 2.

⁷ *Transpower Invitation to comment on whether Transpower should undertake an operational review of the transmission pricing methodology*, 19 June 2017, page 5.

- It is assumed that retail prices reflect wholesale electricity prices plus transmission charges, although the Authority recognises that retail pricing is not in fact this straightforward. Further it is assumed that mass market load responds to these prices. This is a contentious assumption that is based on the Authority's preferred view of how the market and technology could evolve. Figures 6 and 7 in the Authority's paper suggest that these assumptions are likely to be driving the result of the analysis.⁸ In our view, this means that the consumer surplus measure is not robust and should not be relied on. We do not consider that the magnitude of difference between the proposal and the alternative is realistic.
- It is assumed that peak prices would drop by 48% initially. Notwithstanding the uncertainty that this would be reflected in a change in prices to end consumers, it is not likely in our view that Transpower would implement such a dramatic change due to the risk of creating a demand surge (a fact acknowledged by the Authority).⁹
- The results are very sensitive to assumptions about generation investment behaviour and the capital cost of new technology such as network scale batteries, two factors that we consider have significant uncertainty. Under certain assumptions these factors could overturn the conclusion of the analysis. This means that the proposal may in reality result in a net cost.
- The costs of the proposal appear to be understated.
 - The approach to estimating the costs of transmission investment brought forward is not based on the demand forecast and capex forecast, but rather an assumption that the marginal cost of increasing capacity is equal to the average cost of existing capacity. We have not tested this proxy, but suggest that, since existing assets are depreciated, the marginal cost may in fact be higher than the average cost. We question why the Authority did not use its forecasts.¹⁰
 - We are also puzzled by the exclusion of generation costs brought forward by the proposal on the basis that those investments are assumed to be efficient. The fact that the proposal makes new generation viable earlier does not mean it is not a cost associated with the proposal.¹¹
 - We were unable to determine from the material the assumed size of the distortion to generation location decisions caused by the benefit-based charge.¹²

⁸ 2019 Issues paper, page 35.

⁹ 2019 Issues paper, page 17.

¹⁰ 2019 Issues paper, page 46.

¹¹ 2019 Issues paper, page 47.

¹² Ibid.

Quantitatively there is no benefit (in fact there is a dis-benefit) from applying the benefit-based charge to the seven nominated existing assets. The reasoning that the Authority provides for discounting this result appears to rely on arguing that the perceived inequity of applying a different pricing method to yet-to-be-built transmission assets would result in a high risk of challenge and therefore low durability of outcomes. Implicitly the Authority assumes this risk is higher than the risk of challenge associated with applying a different pricing method to seven existing assets. It is not clear why this is the case: by creating winners and losers, the subjective reallocation of historical asset costs based on assumptions input to a model also creates a risk of challenges to the resulting transmission prices.

In addition, the qualitative rationale for applying a benefit-based charge to existing assets relates to arguments that:¹³

- Where users are indifferent to the age of assets that provide a service, charges should not alter based on asset age only.
- Charging for assets based on the benefit derived by users after the investment is made is necessary to obtain the benefits relating to the behaviour of grid users before a new investment is made.

We do not agree that these arguments provide a complete rationale for benefit-based charges for existing assets. We agree that in a workably competitive market the charges for a specific asset would not change solely based on the age of that asset (if there is no impact on service levels). However, this does not imply that an asset that has not yet been invested must be priced on the same basis as an existing asset. Similarly, we agree that in order to create ex ante incentives, ex post prices must be consistent with those incentives. However, this is an argument for pricing in future in a way consistent with the market's expectations. As we already noted, any benefit-based charge should be applied prospectively, to future investments only. Our generation investment is sunk. As a non-marginal generator, we have little or no ability to raise prices to recover a new cost, contrary to the argument provided by the Authority.¹⁴ Changing the basis for charges now cannot change past investment decisions and has no efficiency effect. In our view it is likely to be detrimental to investor confidence and raise the cost of capital, and may reduce future investment in geothermal generation. It creates a transfer of wealth from our beneficiaries, and therefore a reduction in wellbeing for our Māori community.

Residual charge

The application of the residual charge to generation results in a counter-intuitive outcome where NAP would face additional transmission charges during shut downs as a result of being grid-connected. While we expect that this could be addressed through the prudent discount policy, it is worthwhile

¹³ 2019 Issues Paper, pages 199-200.

¹⁴ 2019 Issues paper paragraph 71.

considering whether the benefits of this broader application of the residual charge outweigh the additional administration costs of relying on ad hoc exemptions.

Conclusion

We have focused our submission on the incompatibility of the Authority's proposal in regard to the reallocation of existing transmission asset costs with the Government's objectives to improve Māori wellbeing, and address climate change.

The Authority has not been able to provide evidence that there is any benefit associated with the reallocation of existing transmission costs in this way. We urge the Authority to limit consideration of any benefit-based charge to future investments only.

We understand that the overarching rationale for the proposed changes can be met to a significant extent from simpler, less costly options. We therefore submit that Transpower should complete its operational review or other work to address the key inefficiencies the Authority has identified, particularly in regard to the RCPD charge, prior to consideration of any further changes to the TPM.

Please contact me if you would like to discuss our submission.

Nāku noa, nā

A handwritten signature in blue ink, appearing to read 'Mana Newton'.

Mana Newton
Group CEO
Tauhara North No 2 Trust