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Cross-submission on Transmission Pricing Methodology (TPM) Issues Paper

1. This letter sets out Vector's cross-submission on the Electricity Authority's (the Authority's) consultation on its 2019 Issues Paper (the Issues Paper) on the review of the Transmission Pricing Methodology (TPM). Our main observations are summarised below and discussed in more detail in the body of the cross-submission.

Summary of Vector's comments

2. Vector continues to have significant concerns with the proposals set out in the Issues Paper. Based on the submissions received, it is clear that our concerns are shared with stakeholders across the industry and in all regions of New Zealand. Indeed, only a handful of submitters were fully supportive of the latest TPM proposals.
3. The majority of stakeholders are opposed to re-allocating sunk transmission costs, on the basis that it would create arbitrary wealth transfers for little or no efficiency benefit. Allocating future investment costs on a beneficiary pays basis has wider support, but many parties remain concerned over how the charges will be designed and implemented in practice. It is troubling that Transpower, who would have responsibility for implementing any new TPM, does not support the proposal in its current form.
4. We continue to have significant concerns with the proposal to allocate residual charges to load customers only. As we stated in our main submission, the Issues Paper provides no analysis or evidence to support the view that residual charges would necessarily be passed on to load. Many respondents expressed similar views on this issue, including Rio Tinto, one of the main beneficiaries of the TPM proposals.
5. Although there is general consensus that the current design of the Regional Coincident Peak Demand (RCPD) charge has flaws, there is little support for removing a peak transmission price signal entirely and relying on locational marginal prices (LMPs).
6. Expert reviews of the Cost Benefit Analysis (CBA) in the Issues Paper have confirmed that the analysis is deeply flawed, perhaps irreparably so. Many of the concerns with the CBA

were also raised in the Authority's internal peer review process but do not appear to have been addressed in the final report.

7. We consider that the Authority needs to 'go back to the drawing board' and think again – particularly given the recent release of the Electricity Price Review (EPR) Final Report, which recommended that the Government should issue a government policy statement (GPS) on transmission pricing. The current proposal does not meet the Authority's statutory objective to promote the long-term benefit of consumers.

Beneficiary-based charging for historic investments

8. The re-allocation of sunk transmission investment costs via a beneficiary-based charge continues to be highly controversial. Submitters from across the country, including distributors, generators, independent retailers, and three of the five large gentailers[1], are opposed to this aspect of the TPM proposals. Furthermore, the EPR Final Report recommends that changes to transmission pricing should *"reallocate the costs of past grid investments… only if the Electricity Authority can estimate with a high degree of confidence that such a reallocation will result in substantial, long-term benefits to consumers"*.

9. We are extremely sceptical that the EPR Panel's proposed test can be met. As we have highlighted on numerous occasions, beneficiary-based charging for historic grid investments is inefficient and unfair, as well as being internationally unprecedented.

10. We note that the expert report from the Lantau Group (commissioned by the TPM Group, of which Vector is a member) suggested that there may be a case for treating the High-Voltage Direct Current (HVDC) link differently to other historic assets. However, even if this is accepted, the Lantau Group argues that a much simpler and fairer solution would be to reallocate the HVDC costs across both North Island and South Island generators.

11. In addition to the lack of any economic rationale for re-allocating sunk costs, it is also concerning that respondents have identified serious issues with the methodology used to estimate the beneficiary charges. For example, Rio Tinto (the owner of Tiwai Smelter and one of the main beneficiaries of the TPM proposals) notes that the Authority's own assessment found that South Island load customers incur disbenefits from the HVDC link and hence should not incur any beneficiary charges for HVDC. Similarly, the Issues Paper states that Vector received disbenefits from the North Island Grid Upgrade (NIGU) over four years, but nevertheless allocates beneficiary charges to Vector for this asset on the basis of a two-year period.

[1] Trustpower and Mercury opposed including historic assets within a beneficiary charge, while Contact argued that the beneficiary charge should either include all historic assets or none.

Beneficiary-based charging for future investments

12. There was broader support among respondents for introducing beneficiary-based charging for future investments. As we noted in our main submission, Vector agrees that if they are well-designed, such charges could incentivise more efficient locational decisions by generators and large load customers, and lead to greater scrutiny of grid investment plans by users.

13. However, many stakeholders shared our concerns regarding the detailed design and implementation of beneficiary-based charges. As we noted above, the Authority's modelling of benefits from historic investments has already proved to be problematic – forecasting the benefits of future grid investments over the long lifetime of a transmission asset will be significantly more challenging. It is concerning that Transpower, who would have responsibility for implementing beneficiary-based charging under a revised TPM, does not support the proposal in its current form, stating that:

    > *"the Authority's current TPM proposal runs a risk of not being in consumers' best interests and may not meet the Authority's statutory objective of delivering significant long-term benefits to consumers. Moreover, we are concerned that the proposal may not support New Zealand's transition to a low-emissions economy".*

Allocation of residual charge to load

14. One of the major concerns we highlighted in our original submission was the proposal to allocate residual charges only to load customers. We noted that the Issues Paper contained no analysis or evidence to support the contention that fixed charges on generators would automatically flow through to load, despite this assumption being fundamental to the Authority's statutory objective to protect the long-term interests of consumers. As international experts have noted[2], the residual charge would be a fixed cost for generators that would not be affected by dispatching decisions, which in a competitive market are determined by marginal costs.

15. Several other respondents expressed similar views on this issue, including Energy Trusts of New Zealand (ETNZ), the Distribution Group, Fonterra, and Rio Tinto, one of the main beneficiaries of the TPM proposal. In Rio Tinto's words:

    > *"there is no reason to believe that largely domestic based electricity generation companies, as a class, would be more sensitive to substantially fixed charges than consumers as a class… Hence, including generators in the allocation of the residual charge would be for the long-term benefit of consumers."*

[2] For example, the expert reports on TPM commissioned by Vector from Compass Lexecon (2015) and Professor Derek Bunn (2019).

Similarly, Fonterra submitted that:

> *"the proposed treatment of the residual charge is inefficient relative to other less distortionary approaches. If the EA, as stated, wishes to treat the residual as a not-avoidable 'tax like' charge then Fonterra submits that the residual should be wholly applied to generation."*

16. As we noted in our main submission, the Authority must re-run its models with alternative cost allocations between generation and load, to estimate the impacts on consumers under different scenarios. Without such modelling it is not possible for the Authority to hold the position that charges will just be passed through to consumers. Nor can it be credible that the statutory objective of long-term interests of consumers has been robustly analysed and considered.

Peak charging

17. Problems with the RCPD charge were widely acknowledged by other submitters, but there was little support for the proposal to remove peak charges entirely and rely on locational marginal prices (LMPs) in the wholesale spot market. Many shared Vector's concern over the extent to which spot prices would be passed through, particularly to residential customers. Significantly, Flick Electric – the main retailer currently offering a spot price retail contract – noted that:

> *"It is public knowledge that a substantial number of Flick customers switched to other retailers in 2018 when the spot price increased above the long run average. Customers reacted to the high spot prices by electing the certainty of lower fixed price offers from other retailers. This behaviour is not consistent with consumers being interested in engaging in the spot market…"*
>
> and also, *"we submit the EA has grossly overestimated the potential benefits of consumer responsiveness in support of its TPM proposal."*

18. Other electricity distribution businesses (EDBs) also highlighted the potential negative impacts of removing peak transmission charges on the incentives for lines companies to invest in peak-shaving technologies such as load control. For example, Unison stated that:

> *"Complete removal of the RCPD-based charge would remove the incentive on EDBs to control hot water. Although EDBs are essentially acting on their consumers' behalf to reduce RCPD peaks, we do not think that EDBs would or could similarly act to intervene in the energy market to reduce energy prices with load control, since these are not costs that EDBs pay directly."*

Cost-benefit analysis

19. Our concerns over the robustness of the CBA have been strongly reinforced by the other submissions on the Issues Paper. In particular, the expert reports by Axiom/farrierswier (for Transpower), Houston Kemp (for Trustpower), and the Lantau Group (for the TPM Group) have identified a litany of flaws in both the methodology and assumptions underlying the CBA results. In many cases these mirror the problems identified in Vector's submission on the Issues Paper and the supporting report we commissioned from Professor Derek Bunn, such as:

    - The modelling does not include the costs of additional generation or distribution investment to meet the forecast increase in peak demand arising from the proposal, which together amount to close to $2bn in missing costs
    - The modelling appears to count wealth transfers from generators to consumers as efficiency (total welfare) benefits, in contradiction to the Authority's standard practice of ignoring transfers and focusing only on efficiency, and
    - Even if the CBA assumptions were correct, the modelling indicates that the proposal would have net costs initially, with net benefits not arising until around 2030, rendering the forecast highly speculative.

20. However, the expert reports and other submissions also highlight some additional serious problems with the CBA, including:

- The CBA assumes that generators will behave irrationally by *increasing* their investments in an environment of *declining* wholesale prices and revenues
- The CBA explicitly ignores health or environmental outcomes such as carbon emissions, despite the fact that these clearly impact on the long-term welfare of consumers, and that increased carbon emissions are a likely outcome if the forecast increase in peak demand materialises, and
- The CBA assumes that there will be a surge of inefficient investment in batteries under the status quo, but fails to account for the fact that the arbitrage opportunities between peak and off-peak periods will decline as investment in batteries increases.

21. Both the Axiom/farrierswier report (for Transpower) and the Houston Kemp report (for Trustpower) conclude that if CBA were correctly specified, the net benefits of the proposal could be as low **-$1.5bn** (i.e. a substantial net cost to New Zealand) rather than positive.

22. The only expert report that was generally supportive of the CBA approach was that of NERA, commissioned by Meridian. We note that Meridian is the greatest beneficiary of the

latest TPM proposal[3] and was the only respondent to offer full support on all the key elements of the proposal. Moreover, the NERA report only provides a high-level assessment of the CBA approach and the "plausibility" of the results, not a detailed examination of the underlying methodology and assumptions.

23. Even so, the NERA report still questioned elements of the CBA, including the decision to exclude generation investment costs, noting that:

> *"the Authority treats it [generation investment] differently from other costs such as the saving in battery costs and the increased cost relating to grid investments brought forward… We think it would be useful for the Authority to explain this distinction further."*

24. Since the failure to include generation investment costs is one of the most material errors in the CBA (accounting for around $1.9bn in missing costs), it is questionable whether even the NERA report can be held up as supporting the CBA findings.

25. In summary, we agree with the statement by Houston Kemp that:

> *"In its current form, the EA's cost benefit and options analysis does not provide a basis upon which to form a conclusion that its proposal gives rise to net benefits, either in its own right or as compared to alternatives. The multiplicity of errors made by the EA in the conceptualisation, formulisation and implementation of its analysis makes a simple 'fix' to these errors impracticable within the timeframe provided by this consultation".*

Concluding remarks

26. We consider that the Authority needs to 'go back to the drawing board' and think again on transmission pricing. Major elements of the current proposal (like those before it) are not supported by economic theory, empirical evidence, or international practice – and are not aligned with the Authority's statutory objective to promote the long-term interests of consumers. Not surprisingly, there is also widespread opposition to the proposal across the industry, with the exception of a few parties (mostly large corporates) who stand to benefit from significant windfall gains.

27. The recent release of the Electricity Price Review (EPR) Final Report, which recommended that the Government should issue a government policy statement (GPS) on transmission pricing, reinforces the case for pausing and re-assessing the situation. Moderate reform options, such as improving the design of the RCPD charge and possibly adjusting the

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[3] The modelling in the Issues Paper indicates that Meridian will benefit from by far the largest reduction in transmission charges in dollar terms ($28mn in year 1), and one of the two largest reductions in percentage terms (-42%).

allocation of the HVDC, could achieve the majority of the benefits sought by the review without creating large wealth transfers and significant regulatory risk. Moreover, as the EPR Report makes clear, there are significant competition problems in the retail and wholesale electricity market that should be prioritised ahead of transmission pricing reform.

Yours sincerely

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