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By email: submissions@ea.govt.nz

Dear James

Cross-submission: Transmission pricing review 2019 issues paper

Transpower appreciates the Electricity Authority's (Authority's) decision to seek cross-submissions on the 2019 transmission pricing methodology (TPM) Issues Paper (2019 Issues Paper). We consider that cross-submissions are particularly useful for matters such as TPM reform where there are competing and disparate views.

We thank other submitters for their valuable and informative contribution to the TPM reform debate. Our review and consideration of matters raised by submitters has served to reinforce the concerns and misgivings we expressed in our submission. We confirm that, having read and reviewed the submissions, our views on the Authority's proposal are unchanged. As we submitted, we consider that the current TPM proposal "may not meet the Authority's statutory objective of delivering significant long-term benefits to consumers … [and] may not support New Zealand's transition to a low emission's economy."

We have previously outlined our strong support for the Authority to include a conference as part of the final stages of its review. In our view, following the first round of submissions, and given the opposition, diversity, and spread of perspectives on the TPM, we consider that an industry conference is essential. This need is reinforced by the recently announced strategic review of the Tiwai Point aluminium smelter by Rio Tinto. An industry conference could assist the Authority to decide whether to progress the review, which it could then do with confidence that it has heard and understood the competing perspectives of stakeholders.

The cost-benefit analysis (CBA) is fundamental to the Authority's TPM proposal. From our perspective, it would seem imprudent to advance further with the TPM proposal while the actual benefits of it are subject to such discordant expert opinion. At a minimum, we consider that holding an experts' industry conference is necessary to both identify and determine how best to resolve the issues that have become apparent with the CBA.

Our cross-submission comprises this letter, the attached Axiom-farrierswier (Axiom) review of submissions in relation to the quantitative CBA and an Appendix summarising the key themes we have observed in submissions. In our view these themes illustrate there are substantive issues to be worked through before final decisions can be made on whether to change or replace the TPM Guidelines.

There are significant problems with the quantified CBA

We asked Axiom and farrierswier to consider whether submissions caused them to revise the conclusions in relation to the CBA as set out in the independent expert report attached to our submission. Their consideration of that question is provided by the attached letter.

It is clear the CBA continues to be a difficult and vexed element of the TPM review. The Axiom finding that there are significant problems with the CBA is, in particular, consistent with HoustonKemp's findings. The Lantau Group and NZIER expert reports also found material problems with the CBA. Axiom observes that "The only party to provide an endorsement *of a kind* to some aspects of the CBA was NERA in its report for Meridian" but "that support was qualified and limited in its scope" and "also lacked a robust foundation".

Axiom's review of submissions confirms and reinforces their own findings "that the new CBA could not reasonably be relied upon to support the Authority's proposal" and "those submissions and reports that touched upon at least some aspect of the CBA modelling serve primarily to bolster our core findings". Axiom's conclusion is that the scope of the analysis NERA were instructed to perform left them without "a sound basis to offer an informed opinion as to the efficacy of the top-down modelling methodologies or the resulting benefit estimates. We consequently did not find anything in its report that cast any doubt over the conclusions that we – and others – reached in relation to these additional elements of the CBA."

Electricity Price Review and Government electricity reforms

Many of the submissions urged the Electricity Authority to take a 'wait and see' approach to the Electricity Price Review (EPR) Panel's recommendations before deciding where to go with the TPM review. However, while various stakeholders wanted the EPR to help the Authority resolve the TPM review and deliver final decisions, the Government has yet to decide whether to issue a Government Policy Statement on transmission pricing. The Government has indicated it will make that decision after reviewing the submissions made in response to the current TPM consultation.

One of the EPR Panel's suggestions for TPM reform is that the costs of future grid investments should be recovered on a beneficiaries-pays basis, moving away from the pure postage stamp approach. We want to be clear that we do not conflate the principle of "beneficiaries-pays" with the Authority's proposed benefit-based (BB) charges method. The BB charges method relies on forecasts of beneficiaries and their private benefits, made ahead of the investment actually being made, to set charges that are then fixed for many decades. As we submitted "Inevitably, any forecast of benefits that will arise over several decades will be wrong … [and] in our considered view, the probability of the benefits estimates proving to be right, or materially right over the 30 to 50-year life of an interconnected grid investment is low." We believe the Authority's TPM proposal would delay and constrain Transpower's ability to respond effectively and efficiently to market and industry initiatives, including those that may advance electrification and improve New Zealand's climate change position. Consequently, we remain of the view that "It is hard to see how such a regime could be durable."

While we consider it is possible to make simple changes to the current TPM to better recover the costs of grid investments to reasonably achieve a beneficiaries-pays basis, we confirm that we consider the Authority's proposed BB charges method has a non-trivial risk of undermining New Zealand's climate change objectives and being detrimental to the long-term benefits of consumers.

We consider the Authority's TPM proposal is unlikely to be durable, including because it can reasonably be expected to:

- consciously and deliberately encourage additional consumption during peak periods putting upward pressure on wholesale prices and causing more investment in gas-fired peaking generation, transmission and distribution – since these are natural consequences of higher peak demand;
- provide commercial incentives for parties to withhold information from grid investment processes (ours and the Commerce Commission's);
- result in major investment decisions being bogged down in private interests and disputes at the expense of security, reliability and wider economic and social wellbeing considerations (including responding to climate change);
- delay timely, efficient grid and low-emissions generation investment leading to higher electricity prices and greenhouse gas emissions;
- have a net result of higher overall electricity prices and elevated greenhouse gas emissions – a double blow for the New Zealand economy; and
- exacerbate the energy affordability problems afflicting too many consumers.

Another EPR Panel view is that the costs of historic grid investments should not be reallocated unless the reallocation would result in substantial long-term benefits to consumers. The CBA does not specifically test the impact of excluding or including the reallocation of historic investments and so risks not meeting that threshold. It may be useful for the Authority to undertake a quantitative analysis of individual investments to test the outcomes of status quo, recovery through the residual charge and the proposed Schedule 1 allocations.

The EPR Panel also suggested there should be a phase-in period, where necessary, to avoid price shocks. There is broad agreement amongst submitters that some form of phase-in or transition mechanism is needed, but further work on the design of it is required. As we and others submitted, the Authority's proposed price cap will not prevent price shocks.

The Government's response to the EPR has set an expectation that the Commerce Commission and Electricity Authority will raise the level of consumer and small participant engagement in their respective processes. The new Consumer Advocacy Panel recommended by the EPR Panel can be expected to engage in the investment decision processes (ours and the Commerce Commission's) regardless of the prevailing TPM. We look forward to this new voice providing its valuable perspective as we engage with our stakeholders to inform our investment decisions.

TPM development process requires time for engagement

It is clear the majority of submitters expect and recognise the importance of a proper development process including full consultation with our customers and other stakeholders through each stage of the TPM development process. We summarise these stakeholder views in Appendix 1. We can understand and sympathise with Meridian and NZAS' desire for a quick resolution of the TPM review, including the development and implementation stages. The proposal that TPM development be undertaken within 12 months, however, is not reasonably practicable.

Meridian's suggestion that the TPM development process be shortened by excluding stakeholder engagement and consultation could cause a number of problems. Stakeholder engagement would be a critical input into our thinking and TPM development. Absent stakeholder engagement, we would need to do more work in-house (and with external support) and the result could be no real time saving with a far lower likelihood that the resulting TPM proposal would be to the long-term benefit of consumers or able to be approved. Not engaging with stakeholders also risks exposing TPM development to formal legal challenge on procedural grounds.

For our 2014/15 TPM Operational Review, the two consultation rounds plus workshops were critical steps that assisted us to develop our proposed TPM amendments, and to have confidence that the proposals had broad buy-in and support. There is no shortage of examples of projects that were derailed or ended up taking substantially longer than they should have because there was inadequate or no consultation through the development stages.

Finally, we reiterate that the problems the Authority has identified with the current TPM can be dealt with more quickly, more efficiently and more cost-effectively through incremental reform of the existing TPM and Guidelines. This approach would also carry a materially lower risk of unintended consequences. We would welcome the opportunity to consider these options in conversation with the Authority, our customers and other stakeholders.

Yours sincerely

Alison Andrew
Chief Executive

Appendix 1: Common themes from submissions

There has been constructive engagement from stakeholders on the latest TPM proposals, including issues around the specification of the TPM guidelines (Guidelines) and the implementation process.

While industry consensus cannot necessarily be expected, we conclude there is wide support for moderate reform and retention of some form of permanent peak usage charges. These points can be seen in the large number of submissions that have proposed or advocated pragmatic and readily implementable options directly targeted at the issues the Authority has identified. This advocacy includes the option to reform peak usage charges to ensure they are well targeted and do not over-signal.

Compared to the last round of TPM consultation three years ago, we have observed an increased focus on the implications of new technology and the transition to a low carbon economy. There is clear recognition the TPM needs to support investments that help the country achieve its climate change ambitions through electrification and renewable generation. This highlights the importance of the grid investment and BB charging determinations operating in a consistent and co-ordinated manner. At one extreme, disputes over cost allocation could spill over into the question of whether investments should be approved.[1] We felt the concerns raised by Tilt Renewables and Tauhara North No 2 Trust about implications for renewable generation and smaller operators were particularly informative.

While elements of transmission pricing are contentious, there are some strong and clear themes that have emerged from the submissions. The examples below illustrate that there are a number of substantive issues to be worked through before final decisions are made on whether to change or replace the Guidelines:

Submission theme	Illustrative quote
• Wide support for consideration of more incremental and moderate reform options	Mercury: "… we do not accept the problems identified justify wholesale reform of the TPM or that smaller scale alternatives within the existing TPM have been exhausted".

[1] Our customers will have reasonable incentives to try and minimise their share of any BB charges, just as they have incentives to keep all their costs down. The two determination processes could potentially spill over into each other if, for example, our customers attempt to downplay the benefits they would receive or consider we have overstated their share of the benefits of a new investment.

Submission theme	Illustrative quote
• The Authority's proposal would not ensure consumers only pay for assets they benefit from	Electric Kiwi: "Any benefit- determination, whether calculated by Transpower or the Electricity Authority will invariably be wrong. … The Electricity Authority's view …that South Island consumers are net beneficiaries of the HVDC link highlights how unsafe a benefit-based approach to network charging is. South Island consumers would be better off if Transpower 'cut the cable' … The only reliable way of ensuring consumers don't pay more for transmission, or any other services, than they benefit is to ensure there are clear pricing signals consumers (and/or their service providers) can respond to. If there are clear pricing signals which reflect the cost (including future cost) of transmission, consumers will only consume where the benefit outweighs the cost. This does not require the Electricity Authority or Transpower to [determine] what they think individual consumer-benefits are."
• Application of BB charging is highly sensitive to assumptions and methodological approach adopted	PwC Distribution Group: "We also note how difficult it appears to be to apply a benefit based charge in practice. Analysis of the indicative calculations accompanying the 2019 issues paper reveal how sensitive the outcomes are to certain assumptions and judgements" and "there are significant challenges in quantifying and assigning the expected future benefits of prospective investments".
• It is not practicable to model and monetise some benefits of grid investment	Meridian: "For example, in the resource management context, courts have said that "it is simply not possible to express some benefits or costs in dollar or economic terms" but that this does not "disparage, as a lesser means of decision making" the need to evaluate all the merits of the proposal against the relevant criteria. Indeed, in the merger authorisation context the courts have said that qualitative factors "can be given independent and, where appropriate, decisive weight". Tilt Renewables: "There is fundamental difficulty in assessing and allocating the benefits of new transmission in a highly meshed system. In some ways it is like trying to assess the benefits of individual members in a structural system. All occupants benefit if the structure is weathertight and sound, just like all transmission consumers benefit from a robust transmission system that enables competition between generators"

Submission theme	Illustrative quote
• Pragmatic approaches to determining benefits should be considered	Unison and Centralines: "… consideration needs to be given to … whether the models give adequate recognition to the purposes of some of the investments, particularly where they have been made to improve reliability and resilience, which may not be captured in the vSPD modelling. It may be more preferable to adopt simpler models or zonal approaches than rely on complex models such as vSPD".
• The vSPD method used to reallocate the costs of historic investments has issues that need to be resolved	Rio Tinto: "The Authority has adopted an approach to the charging for pre-2019 assets that is inconsistent with its own principles that benefits-based charging should take account of net private benefits. For example, the approach will result in NZAS being allocated a material portion of HVDC charges despite the Authority's own modelling estimating a net benefit of minus $47m over the 4 year period of its study. Rio Tinto is not satisfied that the Authority has provided a coherent rationale for its decision." And, "In the absence of a robust explanation, … [the Authority's vSPD method] risk[s] the impression the Authority was solving for a predetermined, and undisclosed, outcome. In addition, the modelling that determines these charges does not reflect the realities of the New Zealand transmission grid and hence the benefits it provides." Rio Tinto: "... the Authority appears to only model competition benefits in the way it has assessed beneficiaries for existing assets. This narrowing of the concept of benefit by the Authority is a concerning precedent set by its modelling. One of the purposes of including historical investments in a benefits-based charge is so that, in the future, parties advocating for investments would know that, if they are beneficiaries of the investment, they will pay. However, the Authority's approach would set a precedent where future beneficiaries of reliability focused investments could advocate for an investment and argue that they should only be allocated costs on the basis of how much they benefit from competition." ENA: "some transmission assets (NAaN is an example) that had positive benefits under TPM2 in 2016, are assessed as having nil benefits under TPM3 (but may have positive benefits at some stage in the future). This suggests to us that if NAaN was decommissioned consumers would be no worse off, which is of course nonsense simply because NAaN provides reliability benefits to the upper North Island which are not accounted for in the TPM3 proposal. The big weakness with the vSPD methodology that underpins the benefits-based component in the proposal is that it misses these

Submission theme	Illustrative quote
	benefits. This problem with the vSPD approach will also impact all seven of the assets that are subject of the benefits-based methodology and, if Transpower is required to use the same approach for future investments, to those future assets as well." Unison and Centralines: "… consideration needs to be given to the whether the models give adequate recognition to the purposes of some of the investments, particularly where they have been made to improve reliability and resilience, which may not be captured in the vSPD modelling. It may be more preferable to adopt simpler models or zonal approaches than rely on complex models such as vSPD". Entrust: "It does not appear the Authority has dealt with the substantive concerns about its proposed vectorised Scheduling, Pricing and Dispatch (vSPD) method for determining who benefits from historic investments. Vector, for example, detailed some of the ways "the proposed SPD method overstates consumer surpluses and understate producer surpluses".3 At the Auckland TPM Workshop the Authority revealed its vSPD methodology could not identify any benefits from the North Auckland and Northland (NAaN) upgrade which brings into question the efficacy of the method.
• Removal of peak-usage charges would result in higher wholesale electricity prices (not lower prices)	Vocus: "If Transpower were to remove its peak-usage pricing signal peak-demand would increase, as the Authority has indicated. This would result in an increase in investment in firm peaking generation to meet demand and would drive up spot prices, not reduce them. It would also require increased distribution network capacity which needs to be taken into account in the CBA. If the Authority is wrong on this point then the positive net benefit it has derived from its CBA would be negative."
• The Authority's proposal may not support New Zealand's climate change response	Tilt Renewables: "The continued entry of new wind and geothermal projects is key to NZ meeting its decarbonisation targets; however, Tilt Renewables has serious concerns that the Transmission Pricing Methodology ("TPM") as proposed by the EA would make it significantly more difficult to bring a project like Waipipi to market due to uncertainty related to transmission charges".

Submission theme	Illustrative quote
• Application of the Authority's BB charging proposal would be contentious	ENA: "If it goes ahead, the impact of the benefits-based charge in the TPM3 proposal will not be clear until Transpower develops the methodology but it will for certain remain contentious because of its arbitrary nature. In the end it will however depend on the final scope of the benefits-based charge mechanism (that is, whether it includes all 7 assets as proposed, or just HVDC or some other choice of assets to include). … Our last point here relates to Transpower's ability to accurately estimate the 30 to 50-year private benefits from transmission assets, especially when facing the type of changes that are contemplated for the electricity industry. We consider the approach will most certainly result in more dispute and non-trivial cost to the economy."
• The risk of unintended consequences needs to be taken into account	Electric Kiwi: "Despite the multiple warnings to the Price Review that it needs to consider the "risk of unintended consequences", the Electricity Authority has failed to heed to its own warning in the TPM review. … This is despite widespread concerns raised by Transpower and others about the risks major changes to the TPM could have for the wholesale electricity market, future electricity industry investment requirements, the impact on carbon emissions and electrification etc. … Electric Kiwi cannot think of any Electricity Authority proposal or project that has greater risk of unintended consequences than the TPM proposals."
• The proposed re-opener provisions will lead, over time (and potentially immediately in the case of the historic investments), to material mismatch between the benefits our customers receive from the grid and the BB charges they are required to pay. [2]	Meridian: "The provisions about adjustments to the benefit-based and residual charges could be drafted to expressly cover a greater number of situations that may arise. Alternatively, adjustments and reopeners may be appropriately left to Transpower to develop and describe in detail in the TPM". Vector: "Another concern with beneficiary pays that has been raised by Professor Bunn and others is the treatment of dynamic effects. For example, would charges be recalculated if the forecasted long-term benefits do not materialise? What happens if extra capacity is built in a region to accommodate demand from a large industrial customer who then exits? The Authority has acknowledged that they do not have a solution to such dynamic effects and have not attempted to

[2] Contact and Powerco recommended the recalculation and reallocation occur at each Individual Price-Quality Path (**IPP**) reset. This would only have merit if the IPP determination and BB charge determinations were staggered and did not overlap (e.g. the BB charge determination process could occur immediately after the Commission had made its IPP determination).

Submission theme	Illustrative quote
	address them. According to Professor Bunn, "this is unsatisfactory… dynamic fairness needs further consideration by the EA".
• Reassignment/optimisation provisions need to be clear, simple and avoid arbitrary triggers	Powerco: The beneficiaries of transmission assets will change through time – if a benefit-based charge is to be used, its design must account for this, and the simpler the better because changes in benefit shares will happen again. The reassignment provisions implicitly acknowledge this – an alternative is to recalculate benefit shares a periodic exercise rather than by a trigger mechanism. Meridian: "Leaving it to Transpower to develop the various adjustment mechanisms that are proposed will allow for further consideration to ensure that the mechanisms work as well as possible. Taking the reassignment provisions as an example, clauses 33 to 38 are not particularly clear on important aspects of this mechanism, as presently drafted. Neither those clauses nor the definition of "reassignment" defines what will trigger the reassignment process in the first place. The definition of "reassignment" refers to "a reduction in the value of an asset" but this is imprecise. Moreover, aspects of reassignment may have arbitrary outcomes. For instance, clause 32(b)(i) captures the situation where a single party's disconnection causes the value to be less than 80 per cent, but the provisions on reassignment do not provide for a situation where multiple parties' disconnection would cause the value to be less than 80 per cent or more. Finally, the Guidelines do not make it clear whether reassignment can occur in conjunction with other adjustment mechanisms contained in the TPM. All of this indicates that the Guidelines on adjustment mechanisms should be general in nature and should leave it to Transpower to flesh out the precise scope of each mechanism".
• Getting any new TPM right means allowing Transpower time and full stakeholder engagement	ENA: "The ENA also consider that Transpower is not being given a lot of time within which it needs to develop and implement TPM3. Unchanged, the proposal further increases the risk that Transpower will get parts of TPM3 "wrong" - which means early aggravation and increasing commercial and regulatory risk for both them and their customers". IEGA: "the process outlined in section 6 of the consultation paper is, in our view, inconsistent with good regulatory practice. The IEGA submit that Transpower must be allowed sufficient time for thorough analysis and formal consultation while developing the methodology based on the

Submission theme	Illustrative quote
	Authority's Guidelines. … If Transpower completes thorough consultation and engagement with industry stakeholders while considering options and finalising a methodology it puts to the Authority in the final step, when the Authority consults on Transpower's proposal the proposal should be well anticipated and transparent". Buller Electricity: "Given the length of time the Authority has taken to progress TPM reform to its current status, the proposed timeline for Transpower to develop and implement the TPM is ambitious. This is especially the case as the guidelines now provide Transpower with more flexibility and consequently more development and decision-making responsibility on key issues. This will add to Transpower's burden in terms of the development, consultation and implementation workload which will be required, and take more time". Various other submitters, including ENA, Entrust, King Country Energy and Powerco expressed similar concerns.