Electricity Authority
Via email: submissions@ea.govt.nz

31 October 2019

Transmission Pricing Review – Cross Submission: 2019 Issues Paper

Mercury welcomes the opportunity to provide a cross submission to the Electricity Authority (EA) on the 2019 Transmission Pricing Methodology (TPM) Issues Paper.

Significant opposition to the Authority's proposal is evident in submissions with Mercury assessing around two-thirds of submitters being unsupportive of material changes from the current TPM. Proceeding with the proposal without a clear mandate from stakeholders is likely to lead to implementation challenges, exacerbate durability concerns and potentially divert EA resources with legal challenges.

A consistent theme from many submitters is that durable and efficiency enhancing TPM amendments are achievable with relatively straight forward changes to the existing TPM. Central to many submissions is an on-going concern with the reallocation of historical transmission costs and the identification of beneficiaries which creates considerable complexity.

Mercury agrees with these submissions and notes that the need to continue to prioritise reform of the TPM has significantly diminished due to several factors, including:

- The EA's own Cost Benefit Analysis (CBA) which indicates that any net benefits from the proposal would not accrue until 2034 at the earliest;
- The Electricity Pricing Review (EPR) proposing many regulatory changes for the industry which may constrain both the EA's resources and those of the industry to respond. We support the EPR recommendations being prioritised over the TPM, but note there are incremental reforms Transpower could pursue on TPM in the meantime; and
- The uncertain future of the Tiwai smelter given the strategic review announced by Rio Tinto. The exit of Tiwai would be a material change triggering an immediate reallocation of transmission costs under a beneficiary-pays approach which would reflect the current status quo. In Mercury's view the TPM workstream would benefit by taking a more cautious approach until greater clarity is available to the market.

Given the above factors we support the EA's TPM proposal being put on hold. The EA could free up resources by requesting Transpower progress with a review of the current RCPD charge based on the valuable suggestions put forward by participants via the consultation process to date, including some of the alternatives identified by the EA. Transpower could also advise on whether in its view a prospective application of beneficiary-pays is feasible.

Over the longer term, Mercury suggests the EA monitors any amendments Transpower might make to the existing TPM for efficiency gains. We outline scope for further review in section two below.

Please direct any questions on this submission to John Bright at john.bright@mercury.co.nz

Yours sincerely,

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1 Issues specific to the proposal

1.1 Retrospective application of beneficiaries pays

1.1.1 Our initial submission noted that durability was not a valid benefit of the EA's proposed TPM as the proposal would likely lead to identical durability issues as the existing TPM. This is supported by the EA's own CBA, as noted by The Distribution Group, which shows that excluding historical investments from the proposal would be beneficial.

1.1.2 The reallocation of sunk costs is not supported by any economic theory or literature Mercury can identify. Several submitters make the same point.[1] Mercury agrees with the Electricity Networks Association who state, "We struggle to understand how changes to sunk grid costs can improve economic efficiency…[that] process will result in further disputes and avoidable costs."

1.1.3 To the extent the EA decides to proceed with TPM reform there seems to be little rationale or justification for the application of beneficiary-pays to historical investments. Including historical investments has been shown by the EA itself to result in a net cost to the industry. There are no efficiency improvements possible by reallocating sunk costs and there are no economic or international examples available to suggest this would be efficiency enhancing and consistent with the EA's statutory objective.

1.1.4 Mercury's initial submission discussed the lack of durability benefits inherent in the EA's proposal. We also raised the difficulty for investment in South Island generation given the significant risk provided by uncertain future operation of the Tiwai smelter. We disagree with Meridian's submission where it states the HVDC charge "creates a strong disincentive to invest in South Island generation" particularly considering Rio Tinto's recent announcement that it will review the future operations of Tiwai Point smelter.

1.1.5 Closure of the Tiwai Point smelter would result in the need for around $600m of transmission investment in both islands over a 5-8 year period[2]. This would result in a material reduction in South Island wholesale prices as augmentations are made to the HVDC link and supporting transmission infrastructure. South Island generation investment would be impacted even further - irrespective of any changes to transmission pricing.

1.1.6 Regarding beneficiaries pays for future grid upgrades, we note Transpower's analysis which suggests that the proposal as currently drafted may not ensure beneficiaries will actually pay.[3] If the EA decides to proceed with its proposal we strongly recommend the EA works with Transpower to ensure any proposal for beneficiary-pays is fit for purpose, prior to asking Transpower to formally develop the TPM. Transpower could be requested to undertake consultation with industry on this point prior to any formal guidelines being adopted.

1.2 Impacts on vulnerable consumers

1.2.1 Mercury notes submissions highlighting the increased costs of electricity to vulnerable consumers, particularly in Northland, despite attempts to moderate the impacts from the 2016 TPM proposal. Though the EA suggests the price increases for consumers in Northland, Auckland and the Central North Island would be modest, any small unbudgeted increase in costs can put households into energy hardship and potentially exacerbate poverty. A "small" increase of only $10 or $20 per month for a family in poverty could represent a considerable portion of any disposable income.

1.2.2 As noted by One Double Five Whare Awhina Community House in its submission "[current] living expenses are beyond financial means" for many Northland families. Also, as Trustpower points out in its submission, energy affordability is a fundamental aspect of the current Government's approach to the electricity sector, as supported with the recent announcement on the Electricity Pricing Review.

1.2.3 While we note the EA's statutory objective is primarily about long term efficiency, we consider the economy wide CBA for the TPM proposal currently understates the potential economic costs for vulnerable consumers. While the modelled beneficiaries of the proposed TPM can absorb current charges, there is likely to be negative externality effects on those least able to absorb the charges as proposed.

1.3 Climate change objectives

1.3.1 The EA's proposal to remove the RCPD charge is modelled to cause increased electricity usage during peak consumption periods.

1.3.2 As several submissions point out, if this analysis holds true, that additional electricity usage will likely result in increased generation from quick start thermal generators (diesel or gas). This will lead to noticeable spikes in greenhouse gas emissions during peaks, above what is currently seen in the market (see for example the New Zealand Wind Energy Association's submission).

[1] See for example Refining NZ, Electricity Networks Association, Trustpower, Transpower, Counties Power Limited, Vector
[2] See https://www.transpower.co.nz/clutha-upper-waitaki-lines-project-and-tiwai-future-faqs

1.3.3 Mercury notes the point made in Tilt's submission that unpredictable transmission charges in the future may compromise the ability of bringing wind generation projects to the market due to investment uncertainty. This is reinforced by a similar point recently raised by Mercury's CEO with respect to wind generation decisions which require that "[t]wenty-five-year business cases have eight election cycles and we do need that political stability."[4] Ideally that same level of stability is required of regulatory settings.

1.3.4 These points appear to contradict the EA's rationale where it suggests one of the materially changed circumstances in favour of TPM change is assisting the Government to achieve its climate change objectives. Implementing a proposal which acts against those objectives would not be advisable.

1.3.5 We endorse the submission by Tauhara North No.2 Trust on this point where it notes that the imposition of fixed costs after an investment has been made "…may limit future geothermal investment and expansion" and that the "…proposal to reallocate existing asset costs is inconsistent with the Government's climate change objectives."

1.4 Demand responsiveness

1.4.1 One of the core assumptions made in the CBA is the demand responsiveness of consumers. Mass-market consumers, it is assumed, will increase their usage of electricity in absence of an RCPD charge but also decrease demand as locational marginal prices (LMP) send higher price signals as the transmission network constrains.

1.4.2 Several submitters, particularly distributors, question this assumption noting it requires a precise knowledge of a highly uncertain future to be accurately modelled. At the very least, the assumptions made on this are subject to considerable uncertainty.

1.4.3 Given transmission costs reflect only a small proportion of a mass-market consumers' bill (around 10%), changes in transmission pricing will not be sufficient to send material signals to households to reduce consumption. Currently many consumers are not exposed to locational marginal prices (LMP) and those consumers that are have increasingly favoured moving to more traditional "fixed price variable" due to increases in wholesale prices over the past 12 months. It is therefore uncertain whether, even in the long-term, mass market consumers desire exposure to transmission pricing signals.

1.4.4 We support section 7 of Houston Kemp's analysis for Trustpower as providing further useful discussion on some of these matters.

1.5 Cost benefit analysis

1.5.1 Many submissions note the net benefit in the CBA presented seems very high and is considerably higher than CBAs which have been presented for prior TPM proposals despite being very similar methodologies.[5] Submitters particularly query certain assumptions used in the CBA. Mercury briefly comments on some of those issues below. Mercury's view over-arching view is that the EA should have the CBA independently reviewed.

1.5.2 An important cost which may be difficult to quantify but which is nonetheless important is the viability of the EA's preferred approach and the risk and associated uncertainty related with its implementation. Several submitters have pointed out the EA's own CBA modelling does not show a net benefit from its preferred approach until around 2034. This is supposedly explained by a large amount of low-cost renewable modelled to be built around 2034 which causes a sharp reduction in wholesale prices and a surge in demand. Meanwhile wholesale prices remain low.[6] If this correctly summarises the EA's assumptions, then Mercury considers this needs to be challenged. If it were the case that a

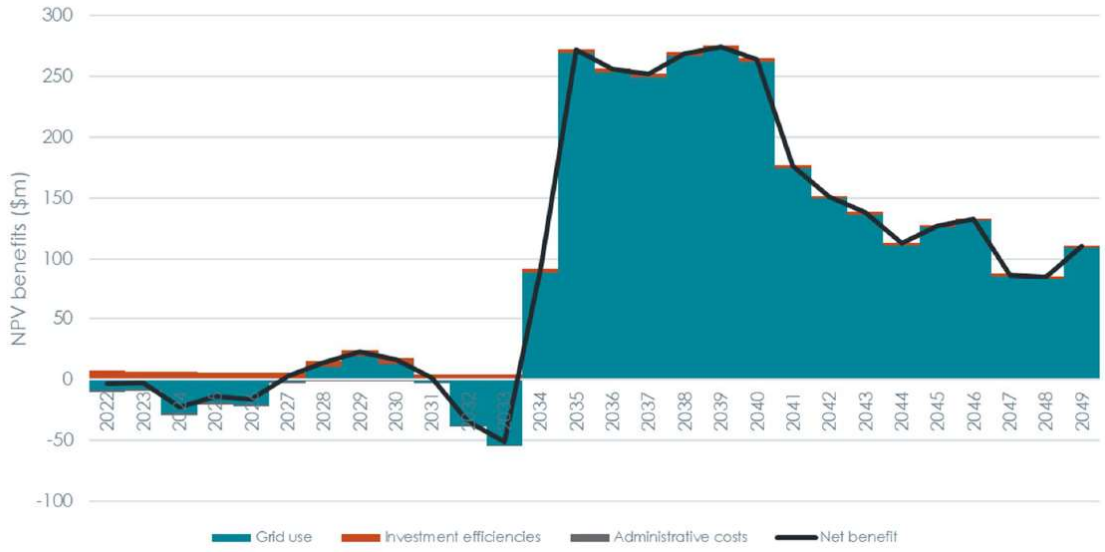
[3] Refer to page 5 and Appendix 3 of Transpower's submission
[4] "Whineray puts Kiwisaver reform in his sights", National Business Review, 15 October 2019, from https://www.nbr.co.nz/story/whineray-puts-kiwisaver-reform-his-sights
[5] See for example Northpower's submission which says "The purported benefits from more efficient grid use are 10x greater than the entire net benefit estimate from the previous CBA – this does not pass a "sense check"
[6] For example, refer to Houston Kemp's "Review of the cost benefit and options analysis of the EA's proposed TPM guidelines" prepared for Trustpower and Axiom Economics' "Economic review of transmission pricing review consultation paper" prepared for Transpower

significant and enduring reduction in wholesale costs was likely this would have a material impact on generation investment with existing consent holders deferring investment rather than experiencing certain losses.

1.5.3 Mercury notes two possible conclusions from this modelling:

1. As the proposal will create a net cost until at least 2034, there is no need to implement a reformed TPM until 2034 as doing so would cause the EA to act against its statutory objective;
2. To ensure against the risk of incorrectly implementing the TPM proposal before or after 2034, there is a high option value in waiting until 2034, or a few years earlier, to ensure the assumptions mentioned above actually manifest. As there would be a net cost in the intervening years anyway, no efficiency gains will be lost.

Net present value of benefits under the EA's proposal, 2022 to 2049



Source: Houston Kemp's Review of CBA, prepared as part of Trustpower's submission on 2019 TPM Issues Paper

1.5.4 One material issue with the CBA seems to be the counterfactual the proposal is measured against, and more specifically the assumptions used in the counterfactual. Mercury notes the CBA analyses commissioned by Trustpower and Transpower and particularly seeks clarification on the following from the EA (or an independent reviewer as mentioned above):

- Though our understanding of the CBA methodology was that the efficiency gain in the 'grid use model' was the removal of any deadweight loss associated with the RCPD charge, we request the EA carefully considers the extent to which transfers might be included as benefits as these would not be appropriate inclusions in a CBA;
- The potential total exclusion of new generation and distribution costs is concerning as this could swing the proposal to being a net cost. We disagree with the EA where it states that "the CBA does not include any costs for distribution network investment brought forward…because the focus of the CBA is transmission, not distribution." We also agree with Axiom that even if the EA's assumed $1.9bn of new generation investment in the CBA model was efficient, this investment cannot be costless to New Zealand generally;
- Potential modelling errors: particularly the assumptions about batteries, generators willing to meet increased demand at lower prices, the sharp payoff switch for the proposal being a net cost to a net benefit around 2034, and the assumptions used for the more efficient grid test model (as mentioned in Houston Kemp's analysis for Transpower);
- The extent to which the EA's vSPD model fails to capture all benefits of transmission assets (i.e. reliability benefits);
- Orion's submission[7] makes some valid points on the CBA assumptions which we consider the EA needs to address, such as the elasticity of demand during peak periods and assumed viability and uptake of TOU pricing for all distributors;
- With Rio Tinto casting doubt on the future size or existence of the Tiwai smelter, the counterfactual scenario used in the CBA may need to be recalculated; and

[7] Orion summarises the benefits of the CBA as "…illusory and are based on a number of misconceptions."

- The assumptions used in the top down modelling benefits seem questionable but particularly those used to calculate the $77m of benefits from 'greater scrutiny of grid investments'. The EA assumes a 4% reduction for every future transmission investment because the Commerce Commission, an otherwise non-industry participant, reduced Transpower's enhancement and development expenditure by 4.4% for RCP2.

1.6 Procedural issues

1.6.1 In Appendix 1 we list some points from the Government's Expectations for Good Regulatory Practice and highlight areas of this where we consider the current TPM proposal has room for improvement. The two main areas of concern are with respect to Treaty of Waitangi obligations and the achievement of a regulatory initiative in the lowest cost manner.

1.6.2 Mercury endorses Part II of Trustpower's submission. These points raised by Trustpower should be of concern as they are fundamental policy development issues. We particularly endorse the following point from Trustpower, repeated in its entirety:

[7.6.1] "In our view the lack of a disciplined approach to problem definition and options evaluation has meant the Authority has:

a. failed to take into account the benefits of the status quo and/or the weaknesses of its preferred option; and
b. prematurely dismissed reform options [that] would be more proportionate, carry lower cost and risk, and better promote the statutory objective."

1.6.3 Point b is especially pertinent. In our view, and in fact the EA's own view, the substantive benefits of the current proposal could be achieved in the existing TPM without subjecting the industry to disruption and risk.

1.6.4 From a theoretical perspective we consider the policy decision making process potentially disbenefits from some biases or procedural errors:

- With respect to this and prior TPM proposals the TPM problem has been incorrectly **framed**. The bulk of the current paper discusses a proposal, a CBA for that proposal, and suggested drafting guidelines for that proposal. We consider the industry would benefit from a more iterative decision-making process;
- We consider there has been an **availability bias** in the approach to TPM policy development. Despite it changing slightly, the current TPM proposal is materially like previous proposals. This availability bias suggests the EA supports some form of beneficiaries pays pricing and is possibly backward engineering the discussion and problem formation to justify it. This bias also unfortunately means that other equally or more viable options have been discounted, such as those discussed in section E of the paper or in Transpower's submission;
- The current and prior TPM proposals suggest there is a sense of **loss aversion** inherent in the process. With considerable investment made in justifying a beneficiary pays style of TPM, there seems to be inertia towards exploring other ways of reforming TPM which may be less disruptive than what is currently proposed;
- This results in a **certainty effect** error, or lost opportunity. As suggested throughout the paper, efficiency gains are possible with simpler amendments to the existing TPM;
- Mercury would caution against making significant changes to transmission pricing when compared with the status quo. Mercury favours an incremental approach to policy development, and particularly where an existing process has not been shown to cause overly negative outcomes. This preference for incrementalism minimises shocks and unintended consequences which provides certainty for the industry, customers, and investors alike.

1.6.5 Mercury also notes one further issue is the difficulty submitters have responding because the proposal and the CBA have been presented together. Conflating the two makes it difficult for the industry to respond in a meaningful manner to the proposal. If submitters take issue with the CBA they may automatically be disposed against the proposal as a result.

1.6.6 Mercury suggests that an additional step should have been added to the consultation process before reaching the current, or any other, proposed TPM. That step would have brought submitters along from the identification of the problem or problems with the current TPM and next discussed potential options for resolving those problems. Only after these preliminary steps should the proposal have been put forward and a CBA presented. Taking these additional steps in the policy development process ensures any issues which come up can be methodically dealt with. We consider the TPM process would benefit from this, instead of re-working several aspects of a proposal simultaneously.

2 Suggested way forward

2.1.1 Mercury's own analysis of submissions suggests the best option in the short term is for the current TPM proposal to be put on hold while the important work from the EPR is progressed. This seems appropriate given that two-thirds of submitters do not support the proposal and the EA will have significant workload driven by the implementation of the EPR recommendations. There are also design issues and assumptions which require further work or investigation, and potentially a new material change of circumstances in a Tiwai smelter closure scenario.

2.1.2 While that work on the EPR is progressing, the EA could request Transpower review the existing RCPD charge. Mercury agrees with The Landau Group (refer to The TPM Group's submission) which notes the material benefits of the EA's proposal are achievable by modifying the RCPD charge. Alternatively, or as well as encouraging a review of the RCPD, the EA could request that Transpower further test some of the alternative options mentioned in the paper, including whether in its view a prospective application of beneficiary-pays is feasible.

2.1.3 Over the longer term, Mercury suggests the EA monitors any amendments Transpower might make to the existing TPM for efficiency gains. There is also scope for reviewing clause 15 of the existing Guidelines such that generators are charged for the HVDC link based on proportionate injections during south-to-north or north-to-south flows, subject to a separate and clearly defined policy process. Only once these intermediate steps have been exhausted, and the market has sufficient clarity on the future operation of the Tiwai smelter, do we consider the EA should proceed with wider ranging TPM reform.

Appendix 1 Government expectations for good regulatory practice

The following points are all taken from the *Government Expectations for Good Regulatory Practice*.[8] We have selectively chosen points we consider especially apply to the EA's TPM process and highlighted some for additional comment below.

Expectations for the design of regulatory systems

The government believes that durable outcomes of real value to New Zealanders are more likely when a regulatory system:

- has clear objectives
- seeks to achieve those objectives in a least cost way, and with the least adverse impact on market competition, property rights, and individual autonomy and responsibility
- has processes that produce predictable and consistent outcomes for regulated parties across time and place
- is proportionate, fair and equitable in the way it treats regulated parties
- conforms to established legal and constitutional principles and supports compliance with New Zealand's international and Treaty of Waitangi obligations

Expectations for regulatory stewardship by government agencies

Robust analysis and implementation support for changes to regulatory systems

Before a substantive regulatory change is formally proposed, the government expects regulatory agencies to provide advice or assurance on the robustness of the proposed change, including by:

- assessing the importance of the issue in relation to the overall performance and condition of the relevant regulatory system(s), and how it might fit with plans, priorities or opportunities for system improvement already identified
- clearly identifying the nature and underlying cause of the policy or operational problem it needs to address, drawing on operational intelligence and available monitoring or review information
- undertaking systematic impact and risk analysis, including assessing alternative legislative and non-legislative policy options, and how the proposed change might interact or align with existing domestic and international requirements within this or related regulatory systems

Before a substantive regulatory change is formally made, the government expects regulatory agencies to:

- test key operational processes required to implement the change
- anticipate and plan for the possibility of unintended consequences or the potential need for contingency measures

Mercury comments on the above

- We consider the above points are useful for the EA to consider and would ensure the historical and current TPM proposals were consistent with the Government's expectations for good regulatory practice.
- Clear objective: for these purposes, we assume there is a clear objective in amending the TPM but we sense that others are not so convinced. There is probably an opportunity here for the EA to make its case stronger.
- Achieve those objectives in a least cost way: Mercury has consistently argued many of the efficiency improvements identified by the EA could be readily achieved by making minor amendments to the existing TPM. This lower cost form of intervention seems to be more consistent with the Government's regulatory expectations.
- Compliance with New Zealand's Treaty of Waitangi obligations: the TPM proposal is likely to lead to negative effects for those Maori in areas of the North Island with interests in geothermal operations. In this case, the TPM proposal may work against the pillars of participation, protection and partnership required of Governmental decision making and will require additional consultation of the EA.
- Undertaking a systematic impact analysis: Mercury suspects this has not been carried out because doing so would naturally have led the EA to identifying that the benefits could be substantively achieved by making small amendments to the existing TPM. If the EA has done this analysis we consider it would be useful for it to be released to the industry.

[8] From https://treasury.govt.nz/sites/default/files/2015-09/good-reg-practice.pdf