

16 September 2024

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Transmission pricing methodology amendments: a level playing field for emerging technologies

Mercury welcomes the opportunity to provide feedback to the Electricity Authority (the Authority) on its recent consultation paper *Transmission pricing methodology amendments: a level playing field for emerging technologies* (the paper). The Authority is proposing some changes to improve the functionality of the Transmission Pricing Methodology (TPM), so it better encourages efficient investment and use of the grid particularly with regards to efficient investment of emerging technologies. These changes relate to connection charges and the residual charge.

Transmission pricing uses complex modelling to allocate costs across the transmission network. We preface this submission noting that while Mercury is supportive of the intent of the proposed changes, the TPM is overly complicated and requires a high level of specific expertise to both interpret and distil the details contained therein. Therefore, in Mercury's view, when decisions are made to change this complex system of rules there is a high risk of unintended consequences.

Connection charges for shared connection assets

Shared connection assets are parts of the transmission network infrastructure, such as substations, transformers, or sections of transmission lines, that provide a shared connection point for multiple grid users.

The Authority notes that current allocation rules for shared connection assets will result in Battery Energy Storage Systems (BESS) and some other customers paying disproportionately high charges. During the initial two-year period after the connection asset is commissioned/in place, Transpower must estimate the connection charge allocation of a shared connection asset using either anytime maximum demand (AMD) or anytime maximum injection (AMI). After two years, customer allocation is calculated by combining both AMD and AMI. Due to the nature of the BESS and other emerging technologies they "could be charged double the connection charge of an equivalent-sized load customer or generator. This is because they both inject into and offtake from the grid, with their allocation at the shared connection asset being based on both their anytime maximum demand and injection (AMDIC)".¹

Mercury agrees that this anomaly should be addressed and support the objectives of the proposed amendment. We also agree that 2026 would be an appropriate start date for Transpower to implement this change to connection charges for shared connection assets.

Residual charge annual adjustments

The residual charge (RC) is intended to recover the revenue not covered by other charges, such as connection and benefit-based charges. It is allocated based on each Transpower connection customer's historical gross Anytime Maximum Demand (AMD), which is the highest recorded level of gross load at each grid exit point (GXP) in a given year. This means that the RC is calculated using a measure of gross demand, including the demand met by

¹ Electricity Authority, Transmission pricing methodology amendments: a level playing field for emerging technologies, Consultation Paper, pg.9



distributed or embedded generation behind the point of connection. It is also adjusted over time, with a lag, based on the customer's gross annual energy usage.

Trustpower noted in 2021 there would be different financial impacts on customers because of the application of the RC based on load factor. They noted

*"... each transmission customer's tariff will be different. Because the base level of charge depends upon the customer's any time maximum demand (AMD) over the baseline period, customers with lower load factors (i.e. proportionately higher AMD) will pay a premium price. Because these baseline AMDs are locked in, there is nothing the customer can do to change this [apart from large changes that trigger a reopener]: its Residual charge tariff will, for all time, depend upon what its load factor was over the baseline period."*²

This variability in conversion factors has led to different financial impacts on customers with similar changes in energy usage, highlighting a key allocation issue within the TPM. Mercury is therefore supportive of the objective of the proposed Code change.

The Authority's proposed amendment to the RC charge is forward-looking, in so far as it is for customer adding new load or increasing energy consumption. It is not intended to change the approach to RC allocation for changes in energy consumption below baseline consumption levels. Nonetheless, Mercury agrees with the intent of proposed amendments to the residual charge annual adjustment, particularly to remove inequitable barriers for different parties potentially investing in BESS.

Mercury supports the Authority's proposed changes to the residual charge

However, we would like to highlight that by having the residual charge applied through a uniform conversion factor it effectively becomes a uniform \$/MWh charge. Mercury suggests that this charge (incremental residual charge above the baseline as a \$/MWh charge) be made explicit as it would have the effect of simplifying the TPM, particularly for those above the baseline. The decision to include what appears to be a significant departure from the previous methodology for the calculation of the RC in a consultation focused on enabling BESS technologies may have had the unintended consequence of leading potential stakeholders to overlook its importance, especially considering the numerous ongoing consultations and the complexity of applying and interpreting the TPM.

We would therefore urge the Authority to consider whether all potentially affected stakeholders have had reasonable opportunity to consider the effects of the proposed change to the residual charge and whether the consultation undertaken has been adequate.

If you have any questions about this submission, please do not hesitate to contact me.

Yours sincerely,



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² Trustpower, 2021, Consultation Paper: Proposed Transmission Pricing Methodology, pg. 6 available from <https://www.ea.govt.nz/documents/1859/Trustpower-TPM-submission-2021.pdf>

