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Submissions
Electricity Authority
PO Box 10041
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Dear Sir/Madam

Re: Transmission pricing methodology: Use of LCE to offset transmission charges

This is Powerco Limited's submission on the Electricity Authority's working paper *Transmission pricing methodology: Use of LCE to offset transmission charges.* We appreciate the opportunity to comment on this paper.

Powerco has seen and agrees with the submission made by the Electricity Networks Association.

Although in our 1 March 2013 submission on the Authority's consultation paper *Transmission Pricing Methodology: issues and proposal* we said that we were not opposed to the concept of offsetting the residual loss and constraint excess (LCE) that Transpower receives from the Clearing Manager against the revenue to be recovered from Transpower's transmission charges, we are concerned that the Authority has not clearly demonstrated that any of the options proposed in the current working paper would deliver a net benefit relative to the status quo.

The working paper claims that the LCE represents a market-based charge for transmission services and that it should comprise a component of transmission revenue for that reason. Further, the paper asserts that, because of its market-based character, this proposed treatment ranks highly in terms of the Authority's economic and decision-making framework.

We do not agree that the LCE is a market-based transmission charge. In the early days of the development of nodal pricing, Hogan and some ather academic writers suggested that constraint rentals would reflect the long-run marginal cost (LRMC) of new transmission investment, and the value of the rentals would gradually increase as constraints proliferated to the point where it was worth investing in additional transmission capacity. In this world view, merchant-based transmission investment would be feasible. In reality, however, even in the heart of the core grid, the constraint rentals are very unstable from year to year and never approximate the LRMC of new investment, except by chance. This is particularly the case in a hydro-dominant system such as New Zealand's, where the rentals can fluctuate violently from year to year depending on hydro conditions. The quantum of the rentals is also a function of how constraints are modelled by the System Operator and the degree of market power wielded by generators downstream of the constraints. These factors can result in very large variations in the rental values, while the short and long run marginal costs of transmission do not vary at all.

In the more peripheral parts of the grid the concept that the LCE is a market-based transmission charge becomes even more nonsensical, as any substantial constraint may lead to lost load due to the lack of downstream generation, but no actual LCE.

We acknowledge that the loss rentals represent an actual cost of transmission, but, again, the values of the loss rentals are dependent on how the losses are modelled and, because of this, often do not accurately reflect the values of the losses actually incurred. This is particularly relevant to the Authority's Options 2 and 3, which propose that LCE originating from connection assets should be applied to the charges for the individual connection assets.

Having established that the LCE is not a charge for transmission, but rather an artefact of the wholesale electricity market model that must be returned in some way to the market participants, the problem resolves to how best to do this administratively. The Authority has proposed three options. Options 2 and 3 each involve rebating the LCE derived from connection assets against the connection charges for the individual connection assets. This concept has two undesirable features. First, because of the way losses across transformers are modelled, the LCE across a transformer may be either positive or negative, with a negative LCE occurring when power flows are low[1]. Consequently, individulaising LCEs to particular connection assets may result, in some cases, in additional connection charges being imposed on particular customers. Such additional charges may be difficult to administer, particularly when the assets are subject to customer investment contracts (CICs) – presumably, in those cases, the contracts would need to be renegotiated, which would be time consuming and costly. Second, rebating the LCE generated by particular connection assets against the connection charges for those assets would partially sterilise the nodal price signals at the relevant nodes. Together, we consider these problems to be sufficiently serious to reject Options 2 and 3.

Option 1 (crediting the LCE against Transpower's MAR in bulk) is a potentially practicable approach, because it has the advantage that LCE originating from particular assets would not offset the charges of those assets directly and, therefore, the nodal price signals would remain intact (although we note that the Authority considers this to be a disadvantage (see paragraph 8.6 of the working paper)). The bulk crediting would also disguise the negative LCEs as at present, which is an advantage. The question then becomes whether or not Option 1 would be more costly than the staus quo, both directly and in terms of managing the volatility of the LCE and promoting or reducing the transparency of the LCE.

Regardless of whether Option 1 were implemented by modifying Transpower's MAR at source (i.e. the Commerce Commisison's determination of the MAR) or netting the LCE off the revenue to be recovered by Traspower via the transmission pricing methodology, the LCE would need to be forecast and a wash-up mechanism instituted to account for under and over recovery. This would inevitably be more costly than the current approach. If the MAR were to be modified by amending the Commerce Act Part 4 arrangements, there would be further significant administrative costs, as any amendments to the Part 4 determinations require a complex and time consuming process to be followed.

A change to the LCE allocation method would also require a review of the Benchmark Agreement, because clause 45.1 of the Benchmark Agreement currently requires Transpower to calculate the LCE in accordance with its current methodology and issue each customer with a credit note at the same time as the invoice for grid charges for the month following the month in which the LCE is received. Amending the Benchmark Agreement is a time consuming and costly exercise, as it can only be done via a review of the Agreement undertaken in accordance with clause 12.28 to 12.33 of the Electricity Industry Participation Code 2010.

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[1] See *Transmission Rentals (Losses and Constraints Excess Payments)*, March 2008, Transpower NZ Ltd, ch. 4, p.13.

For these reasons we believe that Option 1 would be more costly than the status quo, with respect to implementation costs and ongoing administration costs, and there is no reason to believe that it would be any better than the status quo with respect to managing the volatility of the LCE or making it more transparent. Consequently, our conclusion is that retaining the status quo is likely to be superior to implementing one or other of the options proposed by the Authority in the working paper.

Yours sincerely

Richard Fletcher
General Manager Regulation and Government Affairs