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15 October 2013

Submissions
Electricity Authority
PO Box 10041
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Dear Sir/Madam

Re: Transmission pricing methodology: CBA

This is Powerco Limited's submission on the Electricity Authority's (EA's) consultation paper *Transmission pricing methodology: CBA*. Thank you for the opportunity to comment.

Problem definition and material change of circumstances

We note that the "Define the problem" section of the consultation paper does not actually define the problem being addressed. Instead it states:

> "The Authority remains of the view that the reasons identified in the October issues paper are material, but considers that more explanation is required as to why the Authority considers the current transmission pricing methodology (TPM) is inefficient, in particular, why it does not promote dynamic efficiency.

The section then goes on to say that the second issues paper will identify and describe the problems with the current TPM and why the Authority considers it is inefficient. The remainder of the "Define the problem" section is a multi-page discussion of why and how customers respond to price changes, but there is nothing further about the problem definition as such.

This is disappointing. We agree with the Authority that more explanation of why the Authority considers the current TPM to be inefficient is required but, in our view, this should be done via a separate consultation on the problem definition, which should be undertaken ahead of any of the other discussion papers. This is particularly appropriate given the inadequacies and errors that the submissions on the October 2012 consultation paper exposed in the problem definition sections of that paper. For example, the October 2012 paper claimed that there had been ongoing debate and lobbying in relation to the interconnection charge and this threatened the stability of the TPM. In reality, however, the interconnection charge is well understood and accepted by the industry and there have been very few disputes about it since the new TPM came into force in April 2008.

We are now in the tenth year of reviews of the TPM and a great deal of analysis has been undertaken during that time. For this reason, we believe it would be appropriate for a separate consultation on the problem definition to review the analysis and reasoning applied by the Electricity Commission when it developed the current transmission pricing

guidelines and explain in what ways the Authority believes that analysis and reasoning were incorrect and, consequently, how and why the existing transmission pricing guidelines are inappropriate and have led to a TPM that produces inefficient outcomes.

We also note that clause 12.86 of the Electricity Industry Participation Code (the Code) requires that the Authority identify a material change in circumstances before reviewing the TPM. The current 2013 CBA paper is silent on this matter and, in our view, the October 2012 discussion paper did not adequately address it. A material change in circumstances would be a change that is sufficiently substantial to render the current TPM no longer consistent with the transmission pricing guidelines or with the objectives of transmission pricing. The October 2012 paper identified as material changes the over $2billion of transmission investment approved by the Electricity Commission and the Commerce Commission, the replacement of the Electricity Commission by the Electricity Authority and advances in computer technology. In our view, these were not, of themselves, changes that are sufficiently material to justify a review of the TPM. Consequently, we believe this issue should be addressed again at the start of this latest round of consultations, in conjunction with the development of a clear problem definition.

The form of the cost/ benefit analysis (CBA)

We recommend that the Authority not persist with any "top down" approaches to CBA, including benchmarking, if this is to be used to support particular benefit calculations. The main problem with the top down approach, as exemplified by the calculations done for the October 2012 consultation paper, is that it assumes that the changes being proposed will result in efficiencies and then proceeds to make calculations based on that assumption. This approach was not convincing and was heavily criticised by the submissions. In our view, it is essential for the precise means by which benefits will be produced to be clearly described and analysed in a way that is able to be replicated by an independent observer. This can only be achieved via a "bottom up" approach to the evaluation.

Comparators could be referred to for interest and illustration, but should not form the basis of the CBA, in whole or in part. In any event, if the Authority is going to persist with the SPD method, benchmarking will not be possible, because this approach has not been applied anywhere else in the world.

The analysis should use the existing TPM as the baseline case and assess counterfactual proposals against this baseline. To be preferred, a counterfactual should be able to demonstrate unequivocally that it would achieve a better balance of static and dynamic efficiency outcomes than the status quo and that it would limit the costs incurred by parties disputing the TPM.

With respect to static efficiency, the critical characteristic of electricity transmission is that most of the costs are fixed, as they derive from a large stock of existing capital[1], and the short run marginal cost of providing the service is very low and close to zero. Hence, in order to promote static efficiency, recovery of the value of the fixed costs (as determined by the maximum allowable revenue set by the Commerce Commission) should be done in a way that alters the energy consumption decisions of consumers as little as possible. The objective is that customers' consumption behaviour should be driven by the energy price, since the vast bulk of the transmission costs will be incurred regardless of what customers choose to do. This problem is an old one of a type

[1] Whether or not the assets are genuinely "sunk" in the sense that they have a zero opportunity cost, because they have no value in any alternative use, is a largely sterile discussion. The critical points are that the investments have been made, the costs associated with those assets are mostly fixed and the assets are, in practice, not going to be used for any other purpose.

originally analysed by Hotelling[2] and Coase[3]. The best charge or charges would be fixed and unavoidable, akin to an efficient tax. The costs do not necessarily need to be recovered via a single charge that applies to all customers. If different classes of consumer can be shown to have different price elasticities of demand, multiple tariffs set in inverse proportion to the price elasticities of the different groups would be statically efficient, because, in total, this would minimise the impact of the charges on consumption. This approach is known as "Ramsey pricing", after the economist that developed it.

The SPD approach scored poorly in terms of static efficiency, because it was purposely highly variable and unpredictable, and would, if implemented, significantly modify energy consumption decisions. One way of viewing it is that it would undermine the efficiency of the wholesale prices set by the SPD algorithm, by adding to those prices amounts that would vary unpredictably by location and over time.

Dynamic efficiency is promoted if prices reflect the long-run marginal cost (LRMC) of new investment in the grid. The current regional coincident peak demand (RCPD) allocation method aims to promote dynamic efficiency by allocating interconnection costs to grid users that use the grid assets during peak offtake periods, as it is consumption at these times that ultimately drives the need for new investment in the grid.

The RCPD method does not pretend to produce a charge that accurately reflects the LRMC of new investment so there is potential scope for an alternative cost allocation method to promote dynamic efficiency more effectively. However, the SPD method is unlikely to promote dynamic efficiency more effectively than the current TPM, as the price signal it produces is not in any way related to the LRMC of new investment and does not claim to be. Rather, the mechanism by which it is claimed to encourage dynamic efficiency is the promotion of more effective lobbying of the Commerce Commission, which, it is argued, would lead to more efficient grid capital expenditure approval decisions by the Commission. Hence, while the CBA paper discusses the incentive effects of transmission prices on market behaviour, the SPD method is about providing an incentive to engage in an administrative process, which seems to us to be a rather tenuous mechanism with uncertain outcomes.

The CBA should carefully assess the cost of transmission pricing disputes against the level established by the current TPM. This is important, because, from the national perspective, the cost of disputes about the allocation of a pre-determined maximum allowable transmission revenue is an unmitigated economic loss. Since the current TPM came into force, disputes have been at a low level, largely due the clear definitions now in the TPM and the familiarity of the industry with its requirements.

On the face of it, the SPD method would substantially increase the scope for disputes by creating new asset class boundaries and definitional complications. By introducing a distinction between assets commissioned before and after 28 May 2004, and treating these asset classes differently, the SPD approach would incentivise some customers to oppose the replacement and refurbishment of particular assets and others to support such action. Also, as the solution of "but for asset A" plus "but for asset B" plus "but for asset C" would not necessarily equal the solution of "but for A+B+C" we would expect to see many disputes about the definitions of assets and their treatment by the SPD method. Another example of where the scope for disputes would be increased is when a $2million+ asset that forms part of a group of assets that work together, and were commissioned before 28 May 2004, is replaced or upgraded. Careful definitions would

[2] Hotelling, H. (1938) "The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates", *Econometrica*, Vol. 6, No. 3 (July 1938), pp. 242-269.

[3] Coase, R.H. (1946) "The Marginal Cost Controversy", *Economica*, New Series, Vol. 13, No. 51 (August 1946), pp. 169-182.

be required to determine whether such an investment would change the status of the whole group of assets to SPD method assets or only the replaced or upgraded assets.

We also think that some costs that, on the face of it, could be considered transfer costs from a national perspective should be included in the CBA. For example, a change to the TPM could substantially reduce the commercial value of investments in distributed generation that were justified, in part, by avoided cost of transmission payments calculated in accordance with the current TPM. We believe such value reductions should be taken into account as part of the analysis.

Finally, in our view, the analysis should include a value weighting in favour of stability. The reviews of transmission pricing, which have now extended beyond a decade, have created an element of uncertainty which has added to the perceived regulatory risk attached to investment in the New Zealand electricity sector, particularly in subsets of it such as distributed generation. For this reason, we would recommend that the Authority signal that it will only proceed to implement a change to the TPM if analysis can identify an incontrovertible net economic benefit to such change that is beyond a certain identified margin.

If you would like to discuss this submission please contact Ross Weenink, ross.weenink@powerco.co.nz, ph. (04)978-0522 in the first instance.

Yours sincerely

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