Transmission Pricing Methodology – Second Issues Paper

Submission to the Electricity Authority

26/7/2016

Eamon Ginley
Buller Electricity Limited
P O Box 243
Westport 7866

eamon.ginley@bullernetwork.co.nz

Executive Summary

Buller Electricity does not support the adoption of the TPM guidelines proposed by the Electricity Authority in the Second Issues Paper. While some aspects of the proposal have merit, the potential for implementation issues, uncertain outcomes, and unintended consequences are considered to be major risks. In terms of the overall pricing structure of the proposal and development framework, Buller Electricity supports the views of the ENA as detailed in their submission. Buller Electricity's submission is primarily concerned with a number of important issues which have been identified relating to the implementation of the proposed guidelines. These issues are highlighted in our submission, as well our view that the information provided by the EA is insufficient to properly assess the full and long term impacts of the proposed TPM.

1. Introduction

Buller Electricity Limited (BEL) appreciates the opportunity to make a submission to the Electricity Authority (EA) in respect of the Transmission Pricing Methodology – Second Issues Paper.

This submission is structured as follows;

1. Introduction
2. Buller Electricity Background
3. Residual Charge
4. Area of Benefit Charge
5. Prudent Discount Policy & Optimisation of Assets
6. Summary

In terms of the overall pricing structure of the proposal and development framework, BEL supports the views of the ENA as detailed in their submission. Buller Electricity's submission is primarily concerned with a number of important issues which have been identified relating to the implementation of the proposed TPM guidelines.

2. Buller Electricity Background

It is important that this submission is assessed in the context of BEL's unique characteristics. A number of factors differentiate BEL from the majority of other EDB's in New Zealand, as outlined below:

- Major changes have occurred in the transmission supply arrangement at the end of June 2016 due to the loss of a major industrial customer (Holcim Cement Plant) causing a 50% reduction in the regions load.
- A very low level of load (≈10MW AMD from the end of June 2016), and low consumer numbers (≈4600).
- A very high connection charge burden as a proportion of total transmission charges (≈44%). This would be even higher if BEL did not own its Robertson GXP Substation supplied from the ORO1101 & ORO1102 GXPs.
- 2 x 110kV transmission line Connection Assets (IGH–WMG–ORO) connecting BEL to the transmission grid which are grossly under-utilised.
- A very high proportion of ACOT charges compared with interconnection charges (≈86%).
- BEL consumers experience some of the highest electricity costs in New Zealand.

Note all figures quoted are with respect to the post June 2016 BEL network – after the exit of the Holcim Cape Foulwind Cement Plant from the region, and the disconnection of supply from the WPT GXP.

Should the proposed TPM guidelines proceed to the implementation stage, BEL's unique characetristics and hence outlier status, mean that BEL is extremely sensitive and vunerable to variations in the exact methodology that Transpower ultimately chooses to implement the TPM guidelines.

3. Residual Charge

Overview

The methodology proposed for allocating the Residual Charge represents a major departure from the Regional Coincident Peak Demand (RCPD) methodology currently used to allocate the Interconnection Charge (the charge which the Residual Charge is effectively replacing).

RCPD based charging has had a major impact on the load management practices used by Distributors, and the generation profiles adopted by Distributed Generators, whether or not this is actually required to manage demand on the distribution network or transmission grid. In situations where the continuation of this behaviour is required to manage transmission constraints, the EA, Transpower and the System Operator must ensure that the appropriate price signals, incentives and systems are put in place so that this behaviour is continued during and immediately after the transition period to a TPM based on the proposed guidelines.

While the EA highlights that in many areas of the grid RCPD based pricing is inappropriate because the grid is unconstrained e.g. there is little or no transmission cost associated with a marginal increase in demand/capacity, changing the TPM methodology will not necessarily result in consumers experiencing significant changes in their overall electricity charges. The reality is that the

vast majority of consumers are connected at the end of a long supply network, where the transmission costs represent a minority proportion of the overall energy delivery costs.

Only the largest consumers have direct access to the transmission grid and will directly experience the proposed changes to the TPM. Distribution networks are inherently supply constrained, and the further down the network the smaller the number of consumers that will benefit from an upgrade. Compared with transmission upgrades, local distribution upgrades are of a lower cost, but as they benefit and need to be paid for by a smaller number of consumers, the cost on a per consumer basis can be comparable.

While a transmission network may be unconstrained, for the vast majority of consumers, constraints further downstream in the Distribution network will mean that the cost of supply/connection will always be related to demand/capacity. It is important to recognise that the long term cost of the electricity supply network is determined by demand/capacity, and incentivising consumer behaviour to minimise demand requirements will always be of importance. It is unclear whether or not the removal of an RCPD based charge will have a beneficial impact on reducing the long term cost of the electricity supply network.

Residual Charge Allocation Methodology

Of the 3 possible allocation methodologies put forward by the EA for the allocation of the Residual Charge, BEL is in favour of the use of the metered AMD (net or gross), rather than the use of supply transformer capacity or supply line capacity.

While BEL understands the reasons why the EA is proposing to engineer the Residual Charge to be unavoidable, and to be 5-10 year lagging, there are obvious situations where BEL is of the view that this will not result in an equitable allocation of charges between Distributors unless provision is made for the adjustment of the Residual Charge if a Distributors circumstances and/or load change materially. BEL's concerns are outlined in the following:

- BEL is perhaps in the unique situation where the regions load was halved at the end of June 2016 as the result of the loss of a major industrial consumer (Holcim Cape Foulwind Cement Plant).
- If the Residual Charge is allocated on a 5-10 year lagging basis, then the remaining BEL consumers will essentially be required to pay the component of the Residual Charge attributable to the Holcim load for a number of years.
- If this is the intention of the EA's proposal, then future contracts between Distributors and large industrial consumers may need to include clauses which hold these consumers liable for the Residual Charge resulting from their connection once they have departed.
- If the EA is proposing that a Residual Charge will be applied to new entrants (the extreme end of a material change in circumstances), then provision should also be made for the adjustment of the Residual Charge for a material change in a Distributors circumstances e.g. a significant increase or decrease in load. Similarly, if a Residual Charge is to be applied to a new entrant, then the Residual Charge associated with this new entrant must cease when the new entrant departs e.g. not continue on for a further 5-10 years.
- In the case of the 50% loss of load in the Buller Region at the end of June 2016, BEL's view is that this load should be excluded from the allocation of any future Residual Charge.

- A consequence of using a 5-10 year lagging allocator for the Residual Charge is that it favours Distributors with load growth over Distributors with flat or declining load. The 5-10 year lag essentially has the effect of transferring Residual Charge from Distributors with load growth to Distributors with no load growth. A Distributor with load growth will most likely have a growing consumer base, growing revenue base, and will most likely be in a better position to afford to pay for a greater proportion of the Residual Charges.

Aggregating of AMD at Nodes

The Residual Charges published in the Second Issues Paper were allocated to BEL using the GXP AMD's listed in Table 1.

Grid Exit Point (GXP)	AMD (kW)
ORO1101	9,400
ORO1102	9,600
WPT0111	9,400

Table 1 AMD used in Residual Charge allocation

While the half hour combined load at the ORO GXPs (ORO1101 + ORO102) is very similar to that at the WPT0111, the ORO GXPs were allocated a combined Residual Charge which was double that allocated to WPT0111. The reason why this occurred is because BEL takes supply at ORO at 110kV, as BEL owns its GXP Substation (Robertson St). With this transmission supply configuration, the electricity market requires that 2 GXPs are created (ORO1101 & ORO1102).

During the normal course of events the load at the ORO GXPs will be fully transferred on to either ORO1101 or ORO1102 due to maintenance work or faults, resulting in the full AMD (or close to the full AMD) of the downstream load being registered on both GXPs. The end result is that BEL is charged double the Residual Charge for the ORO GXPs compared with the situation where the Robertson St Substation was Transpower owned, and BEL took supply at a single 33kV or 11kV GXP (as in the case of WPT0111).

BEL is of the view that in the case of network configurations like the ORO GXPs, the AMD's at the GXPs should be aggregated (on a half hour basis) to determine a combined GXP AMD which is used to allocate the Residual Charge. Otherwise BEL would be heavily penalised for owning our own GXP Substation, and a level playing field would not exist between Transpower and Distributor owned GXP assets with respect to the Residual Charges incurred.

Alternative Residual Charge Allocation Methodology

If the EA is proposing to engineer the Residual Charge to be as much like an unavoidable tax as possible, then allocating the Residual Charge on the basis of the energy conveyed in the distribution network, rather than GXP AMD, is a charging mechanism that should perhaps be considered as an alternative. The quantity of conveyed energy is available from regulatory reporting, and would not necessarily need to be determined for each GXP e.g. it could be aggregated across a Distributors network and GXPs. There is no reason why the value of the energy conveyed cannot be that from the previous year e.g. there is no reason why a 5-10 year lagging value should be used.

4. Area-of-Benefit Charge

Under the proposed TPM guidelines the Area-of-Benefit (AoB) Charge will be the primary method for implementing a cost reflective and service based charging regime. For Distributors to gain an understanding of the full and long term impacts of the proposed guidelines, it is essential that the AoB Charge is well understood. A major shortcoming of the information provided by the EA is that it is not possible to gain an in-depth understanding of the AoB Charge from the information provided.

BEL recognises that the modelling published in the Second Issues Paper is indicative only, and that actual charges may differ significantly from the charges modelled depending on how the TPM guidelines are implemented. A consequence of this is that the indicative charges presented cannot be relied on, and are therefore of limited value. A further aspect of the modelling which makes it very difficult to assess what the longer term impact of the TPM guidelines might be, is that the EA has only presented information on the indicative charges at the time of the initial transition to a new TPM.

Once investment is made in Interconnection Assets post the date AoB Charges will be applied for new investments, AoB Charges will be incurred by grid users which are deemed to have benefited from the investments. There are conflicting views on how the AoB Charge will evolve, with perhaps the most likely outcome being that the proportion of charges collected via the AoB Charge increases. No in-depth case study or scenario modelling information is however provided on this by the EA. It is clear that the indicative charges modelled do not necessarily, and in some cases will almost certainly not, provide a good indication of future transmission charges once a TPM based on the guidelines is bedded in.

BEL's initial AoB Charge is limited to approximately 10% of our total transmission charge, as we have only received limited benefit from the completed projects which are proposed to be included in the calculation of the initial AoB Charge. Our location at the end of the USI transmission grid means that BEL will be in the direct AoB for investments in the USI. The USI transmission grid is approaching constraints and will require significant investment in the future if demand in this area of the grid increases. As BEL is further away from the main sources of South Island generation (Waitaki Valley) compared with other Distributors in the USI, BEL expects that our AoB Charge and overall transmission charges will increase relative to other USI Distributors as investment is made in the USI transmission grid. This is because BEL makes use of more transmission assets relative to other USI Distributors. Whether or not this assumption is correct, and/or the extent to which this will affect BEL's charges, is unknown and needs to be clarified by the EA.

Further complicating factors which create uncertainty in relation to AoB Charges are:

- These charges are based on benefits rather than costs. Cost based charging is an approach which Distributors are more familiar with.
- Distributors have no real understanding of the algorithms used to determine benefits, the value of benefits, and associated AoB Charges.

BEL is of the view that from the information provided by the EA, it is impossible for BEL to properly assess future longer term AoB Charges and overall transmission charges. It would be very helpful if, in future information released by the EA relating to the TPM guidelines, additional material on AoB Charges is included. This would include more specific case studies and scenario modelling, enabling

Distributors to better understand the impact on the TPM guidelines on their future transmission charges.

5. Prudent Discount Policy & Optimisation of Assets

This is the main area where BEL's view differs from that detailed in the ENA's submission.

BEL supports the extension of the Prudent Discount Policy and the optimisation of asset values (as detailed in the Second Issues Paper) for the AoB Charge in circumstances where the use of these assets changes materially.

If the proposed Prudent Discount Policy is implemented, BEL is of the view that Transpower should be restricted to assessing and recommending on the applications, and the EA or some other party would be the more logical and appropriate party to make the final decisions. BEL also considers that a similar decision making process will most likely be required in relation to the optimisation of assets.

BEL considers that there is no reason why Connection Assets should not also be eligible for optimisation, if there is a similar material change in their use. This is of particular relevance to BEL where Connection Charges are dominant by charges associated with the 2 x 110kV Inangahua – Orowaiti transmission lines. These lines are grossly under-utilised, especially now that the Holcim Cement Plant has closed down, and it is difficult to envisage that they would be built today to service the existing 10MW load. BEL is of the view that these assets are clear candidates for optimisation should this policy be extended to Connection Assets.

6. Summary

BEL does not support the adoption of the TPM guidelines proposed by the Electricity Authority in the Second Issues Paper. While some aspects of the proposal have merit, the potential for implementation issues, uncertain outcomes, and unintended consequences are considered to be major risks. BEL questions whether the removal of RCPD based pricing will result in a reduction in long term transmission costs.

BEL has identified a number of issues relating to the equitable allocation of the Residual Charge to grid users. We are of the view that provision should be made for the adjustment of the Residual Charge in circumstances where there is a material change in load. Furthermore, a 5-10 year lagging allocator for the Residual Charge should not be used as it favours gird users with load growth.