

Supporting Reform to Efficient Distribution Pricing Consultation

Submission to the Electricity Authority

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Executive Summary

The Electricity Authority has issued the consultation 'Supporting Reform to Efficient Distribution Pricing' and BEL appreciates the opportunity to make a submission.

Buller Electricity Limited (BEL) is a consumer owned electricity distributor and has recently undertaken reform of its pricing structure for medium sized non-residential consumers (>15kW). This resulted in the transition from fixed daily charges to demand based (responsive) fixed charges, where demand is determined from the consumption in the previous 12 months. Full details and the reasoning for our approach to distribution pricing are described in [BEL's Pricing Methodology 2021-22](#).

Our pricing reform work program has led us to closely examine the pricing options available and what appears to be the Authority's single-minded pursuit of economic efficiency above all other considerations. Furthermore, fixed (non-responsive) charging is offered by the Authority as the appropriate method for the recovery of Residual Charges in order to achieve economic efficiency. The reasoning for this approach is however fundamentally flawed as it is underpinned by the erroneous assumption that fixed (non-responsive) charges eliminate/reduce the incentives for consumers to distort their use of the network.

BEL contends that the Authority's high-level guidance on the recovery of Residual Charges is overly simplistic as it conveniently overlooks that fixed (non-responsive) charges create step changes in fixed charges at pricing capacity/demand or price category boundaries. Given that consumers are entitled to supply upgrades & downgrades the inefficient economic incentives for consumers to distort their network use dramatically increases in comparison with responsive fixed charges as these step changes are approached from above and below. Consumers will almost certainly take advantage of the inefficiencies associated with step changes through the adoption of disruption technologies as these clearly present as excellent business opportunities.

Furthermore, as step changes in fixed (non-responsive) charging also introduces a significant number of other negative consumer impacts related to fairness, equity, arbitrage and administration, BEL is of the view that the Authority would be wise to re-examine its thinking on distribution pricing with a

view towards developing a more holistic, balanced and convincing approach which takes these important factors into consideration.

1. Introduction

Our submission focuses on highlighting the negative impacts associated with the recovery of Residual Charges using fixed (non-responsive) charges as we are of the view that the Authority is neither acknowledging and/or giving adequate consideration.

BEL agrees with the Authority's reasoning for promoting Residual Charge recovery which 'least distorts network use', so that consumers are not provided with incentives to make investments in disruptive technology which results in fixed costs being shifted on to other network users. While we agree that this presents a major issue for Distributors and consumers, the overall case is being overstated by the Authority given the expected increase in electricity use as we transition towards a low carbon future. Furthermore, it is debateable if the approach to pricing the Authority is putting forward (non-responsive fixed charging) results in the claimed outcomes of economic efficiency, distorts network use less than other approaches to pricing, and/or results in overall pricing outcomes which are better.

The key matter which needs to be considered in any discussion on economic efficiency is the degree to which the Authority's Residual Charge recovery objectives can realistically be achieved using the approach being advocated (non-responsive fixed charges) or any alternative approaches, and the trade-offs which exist in terms of developing the best overall distribution pricing outcomes.

BEL agrees that distribution pricing is a very important aspect of the electricity industry and given that it has direct consumer impacts it requires careful thought and consideration of a number of factors ranging from social to economic. The development of appropriate distribution pricing outcomes is our primary motivation for making this submission, and the Authority needs to recognise that this will not occur if the approach being adopted is fundamentally flawed and/or considers the economic aspects in isolation.

2. Economic Efficiency of Residual Charge Recovery

The Authority's high-level economic approach to distribution pricing is heavily focussed on achieving economic efficiency via the recovery of Residual Charges using fixed (non-responsive) charges. The case for this approach to distribution pricing is compelling until one considers some of the associated real-world practical implementation issues and consumer impacts.

In contrast to transmission pricing, price categories are required for the implementation of distribution pricing, with these categories typically being based on capacity/demand, which represents the size of the customer, overall network use, and the ability to pay. A direct consequence of the requirement for price categories is that fixed charges which are non-responsive over capacity/demand bands result in step changes in fixed charges across a distribution pricing regime.

For illustrative purposes a general diagram showing non-responsive and responsive fixed charges in relation to demand/capacity is provided in Figure 1. It must be recognised and acknowledged that fixed (non-responsive) charges do not reduce/eliminate inefficiency in distribution pricing but rather serve to concentrate, accentuate, and expose the inefficiency to consumers in the vicinity of fixed charge step changes (Δ in Figure 1). While for responsive fixed charges economic inefficiency is spread in an even manner across all consumers (as indicated by the flat red line), for non-responsive fixed charges the economic inefficiency spikes at the fixed charge discontinuities (as indicated by the green triangles). BEL contends this inherent and undesirable feature of non-responsive fixed charges presents a very serious issue for the implementation of this method of pricing, to the extent that it is invalidated as an approach for distribution pricing.

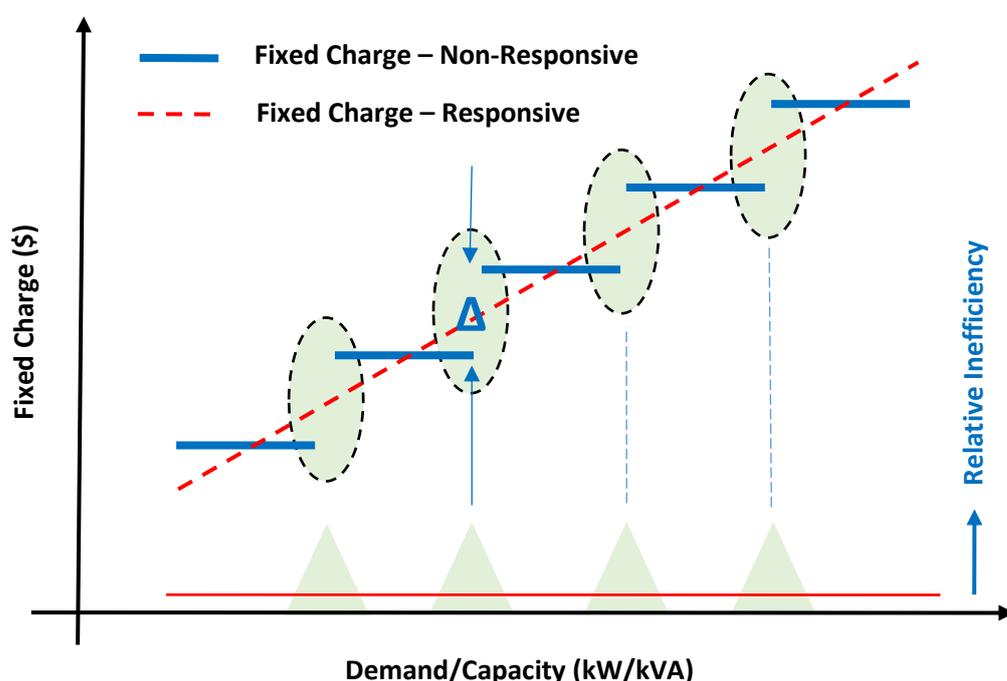


Figure 1 – Depiction of non-responsive / responsive fixed charges & the relative inefficiency

Given that consumers are entitled to capacity/pricing downgrades¹ step changes in fixed charges heavily incentivise consumers in close proximity to a step down to modify their network use so that they become eligible for a downgrade and associated lower delivery charges. Meanwhile, consumers in close proximity to a step up in fixed charges are heavily incentivised to avoid growth of demand for electricity (capacity, and indirectly energy) so that they avoid the need for an upgrade and associated higher delivery charges. In both cases the natural consumer response would be to consider an economically viable investment in energy storage solutions if this lowered their overall electricity costs including the avoidance of higher delivery charges, even if spare network capacity

¹ Denying consumers this right effectively favours new connections over existing connections since the former is able to take advantage of the benefits available from disruptive technologies while existing consumers are not.

exists. It is noted that these are the very incentives the Authority has the objective of eliminating, but rather than eliminating or reducing these incentives fixed (non-responsive) charges increase the incentive in the cases identified.

Step changes in fixed charges also create charge arbitrage issues at the fixed (unresponsive) charge discontinuities. The higher the proportion of fixed charge revenue (with 100% being advocated by the Authority for Residual Charge recovery) the greater the step changes in fixed charges, and the greater the scale of the resulting economic inefficiency and charge arbitrage at the boundaries. While the magnitude of the step changes in fixed charges can be reduced by using more price categories which cover a narrower demand/capacity band, this simply spreads a lower level of inefficiency across more consumers (overall this makes it easier for more consumers to exploit a lower level of inefficiency). In the limit as the capacity/demand band associated with each price category is reduced to zero this reverts to demand based (responsive) fixed charges where all consumers are exposed to the same level of inefficiency.

The only way to truly eliminate inefficient outcomes for Residual Charge recovery is to apply fixed charges in a uniform manner across all consumers. Given that this would result in excessive charges for smaller users this is clearly not a practical solution.

3. BEL Implementation of AMD Based Fixed Charges

BEL has successfully implemented Anytime Maximum Demand (AMD) based fixed charges for our medium sized commercial consumers (>15kW) from 1 April 2021. The AMD is determined as the consumer peak half-hour demand in the previous 12-month period and the intention is to reassess AMD on an annual or bi-annual basis provided Smart Meter data is available, or on consumer request following a material demand/use change at a site. Given that BEL has no capacity constraints or network growth, all our revenue can be considered as being Residual in nature. Despite this we maintain a revenue recovery split 50/50 between fixed and variable (consumption) charges. While the option exists to increase the proportion of fixed (responsive) charging in the future, we see value in maintaining some level of variable charging.

In terms of the use of demand or capacity as a basis for fixed charges we are of the view that demand more accurately represents the delivery service consumers are most interested in, being the access to the electricity they require, rather than access to electricity up to a set value (capacity) which is arbitrarily determined by the sizing of physical components or the setup of a pricing regime.

While our approach to distribution pricing is clearly not in line with the Authority's existing guidance, we are of the view that it has merit and needs to be more widely considered in the industry as being viable and valid. In terms of pricing structure and administration, AMD based fixed charges are advantageous for the following reasons:

- A wide range of consumers can be accommodated in a single price category
- Price category assessment is naturally built into the pricing system through maximum demand assessment
- Fixed charges are individually set to the consumers demand requirements, with this also being closely matched to the demand service the consumer is using and requires

The introduction of a Monthly Maximum Demand (MMD) charge is seen as possibly being a better option than consumption based charges for variable revenue recovery in the future. It is however recognised that there is currently limited scope for the implementation of such a charge given the lack of this data for mass market billing purposes. From a pricing and asset management perspective it would be very useful if Distributors had access to consumer maximum demand (half-hour) data from Retailers/MEP's on a monthly and timely basis. This would simply allow Distributors to establish if consumers electricity needs are being adequately provided for and their pricing is appropriate.

4. Annual Distribution Pricing Scorecards

Distributors should be given the opportunity to record an official response on their own Pricing Scorecard assessment the Authority publishes each year. This would enable Distributor's to comment on the assessment and put forward the reasons for any divergence from the Authority's views on relevant matters. BEL is of the view that this would provide much needed balance to the overall pricing discussion and the Authority's approach to pricing.

5. Further Consideration of Distribution Pricing & Flexibility Services

BEL has been able to identify a number of misconceptions, issues and undesirable consumer impacts which exist with the fixed (non-responsive) charging approach the Authority is advocating for Residual Charge recovery in distribution pricing. It is very concerning for the future of the industry that the Authority has not been able to develop its thinking to the level that these issues and their gravity are recognised, let alone considering appropriate solutions, as it is delaying the development & implementation of more appropriate distribution pricing.

While BEL considers that our recent pricing reform program has allowed us to put in place a solid foundation for our future pricing structures – being the demand based (responsive) recovery of fixed charges, there remains significant work to be done in terms of further developing and refining our strategy for the most appropriate method for the recovery of our existing variable charges (50% of total revenue) which are currently recovered via consumption charges. Our longer-term views on an effective pricing strategy is that peak demand is the most important and relevant parameter and this most likely needs to be considered over the long-term (12 months), medium term (monthly), and short term (critical peak), where the revenue recovered from these 3 components is weighted to create the required/desired overall pricing signals to consumers.

BEL is clearly not offering a detailed analysis of all pricing related factors that we have identified for the assessment of good pricing outcomes. It is simply beyond our level of expertise and resourcing to undertake this work and quantify the social & economic factors which determine the most appropriate method for Residual Charge recovered. Furthermore, given that a number of the trade-offs involved are subjective and open to quantitative interpretation this clearly does not present itself as a straightforward modelling exercise.

Other areas in which the Authority may wish to consider undertaking further work in order to further electricity & distribution pricing are:

- Development of a long-term vision and technological roadmap for the implementation of electricity/distribution pricing – including flexibility services
- While the future is uncertain and any vision/roadmap will invariably be incorrect, it would be helpful if participants were provided with some context as to how the overall future of electricity pricing could come together
- Evaluation of the role the Authority needs to play in order to facilitate the desired outcomes given that it is uncertain if market forces will result in either adequate or suitable outcomes
- Given the inevitable increase in electricity demand/consumption and stress/congestion on networks, the value of maintaining long term consistent pricing incentives over incentives which are more transient in nature needs to be evaluated in more detail
- This has impacts for the investment in new technologies which are based on providing flexibility services, as this is inherently risky since there are no guarantees as to when the pricing incentives will cease e.g. when a network upgrade becomes necessary despite the use of disruptive technology to defer this for a number of years
- Consider the development of a new Monthly Maximum Demand (MMD) standard data format which can be used by Distributors for network operation/planning & pricing/billing purposes

In conclusion we would welcome the Authority reopening its work on distribution pricing with a view towards developing a much more realistic and balanced approach which adequately considers the important practical and implementation issues we detailed in this submission.

6. Response to Individual Questions

BEL's responses to a selection of the individual consultation questions are set out below:

Q2. Do you consider any material to be incorrect, subjective or superfluous?

We have detailed the reasons why we consider that fixed (non-responsive) charges are not necessarily the most appropriate for the recovery of Residual Charges. As this is the foundation of any pricing structure implementation it is arguably the most important.

Q7. Where questions of data access or use do not fall into the Updating regulatory settings for distribution networks consultation, is there any specific pricing-relating data concerns that the authority should know, or be involved in?

Distributors need to be provided with ICP monthly maximum demand data as a standard EIEP data format. Alongside consumption data BEL considers demand data to be the most basic form of LV/consumer visibility.

Q15. Currently, installation of energy intensive devices such as EV fast chargers are not required to be notified to distributors. Do you see this as an impediment to advancing pricing reform, and what role do you see the Authority having in this area, and how could this be done?

Electric vehicle charges of 7kW or more need to be registered with distributors and metered on a separate channel for new installations.

Q19. Please consider the role that you see appropriate for the Authority to be proactively involved in pricing evolution.

The Authority's strong focus on the economic considerations associated with distribution pricing needs to be tempered with real world circumstances and constraints so that the pricing information being put forward by the Authority is realistic, implementable & results in the best outcomes.