For Submission to:

Electricity Authority

Submission on Avoided Cost of Transmission Payments for Distributed Generation

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TABLE OF CONTENTS

1. ABOUT BULLER ELECTRICITY

Buller Electricity Limited (BEL) welcomes the opportunity to make a submission on the Electricity Authority's Working Paper "Transmission Pricing Methodology: Avoided cost of transmission (ACOT) payments for distributed generation" (Working Paper). This report is BEL's response to the Working Paper.

BEL owns and operates the electricity distribution network within the Buller region and is owned by a Consumer Trust. BEL takes electricity from two grid exit points and supplies approximately 4500 homes, farms, and businesses. BEL is also the largest shareholder in Pulse Energy Limited (Pulse), the largest independent new entrant energy retailer. Pulse is a major purchaser of energy from distributed generation.

The Buller region is one of the more electrically remote regions in New Zealand. Consequently, consumers face some of the highest electricity prices in the country because of our distance from generation sources. Consumers are further impacted because of the locational price risk this distance creates and in the absence of suitable risk management tools, this risk reduces the level of retail competition that might otherwise be expected.

From BEL's perspective, it is important that the industry as a whole functions efficiently and effectively to ensure that the long term interests of consumers are protected. BEL contends that the way to achieve this is through competition (which gives choices to consumers) and through the replication of competitive outcomes (where competition is limited).

Therefore in making any change to the regime for remunerating distributed generation (DG) for ACOT, care must be taken to avoid creating new risks for market participants.

2. THE ELECTRICITY AUTHORITY'S CONCERNS

The Working Paper sets out the EA's views on the efficiency and appropriateness of ACOT payments. The stated purpose of the Working Paper is to:

> *"…understand the efficiency implications of any changes to the TPM in relation to ACOT payments."*

Based on this purpose, the EA's key findings can be summarised as follows:

- The majority of ACOT payments made are based on avoided Transpower charges - there appears to be little recognition of economic costs (ie reduced future operating or capital costs).

- 100 per cent of the interconnection charge is typically included in ACOT payments meaning consumers do not share in any benefits that might arise from the connection of DG.

- ACOT payments provide a financial advantage to DG over grid based generation. This may result in uneconomic investments in generation.

- Analysis of Transpower's asset planning documents suggests that DG:

    - places additional costs on the transmission system

    - is unreliable as a transmission alternative under the n-1 security standard.

- The connection of DG creates both benefits and costs for distributors, depending on the circumstances of the DG connection. However, the benefits are expected to increase as energy storage capability increases.

- Other non-network related benefits (eg environmental, loss and constraints) appear to be at least partly compensated through the wholesale market mechanism, given these benefits are reflected in wholesale prices.

In the face of these finding the EA considers that ACOT payments should be based on costs, rather than avoided Transpower charges to the distributor and such an outcome would better reflect the EA's statutory objective.

Set out below are BEL's comments on the Working Paper.

3. SOME COMMENTS ON ACOT

As discussed in BEL's submission on transmission pricing, in reviewing the Authority's proposal for changing the basis of ACOT payments, it is useful to consider the basis for the establishment of the market framework operating in New Zealand. This is important because it helps define the problem that needs to be addressed by any proposed change.

The reform of the wholesale electricity market in the mid-90's was designed to promote a more open market in electricity, benefiting both consumers and generators. Not surprisingly this is consistent with the objectives with which both the Commerce Commission and the EA are tasked.

Section 15 of the Electricity Industry Act 2010 provides the Authority with the statutory objective:

> *"…to promote competition in, reliable supply by, and the efficient operation of the electricity industry for the long-term benefit of consumers."*[1]

The Commerce Act provides the Commerce Commission with a similar purpose. Section 1A Commerce Act 1986 has the following general purpose:

> *"The purpose of this Act is to promote competition in markets for the long-term benefit of consumers within New Zealand."*[2]

Regional Electricity Markets

However, retail electricity markets are regional in scope across much of New Zealand. These regional markets arise because of the at times high price difference between a region and the locations at which electricity hedges can be obtained to minimise price risk. If retailers are unable to obtain electricity hedges to off-set price risk and are unwilling to enter a region as a consequence, consumers are not well served by the electricity market.

In the case of consumers on BEL's network, they are supplied with electricity generated more than 540 kilometres from Westport. To put this into perspective, that is the same as having all of Auckland's power supplied by generating stations in Wellington. Consequently Buller region's electricity supply is at risk from a failure at any point on the 540 kilometres of the transmission corridor.

[1] Electricity Industry Act 2010 - http://www.legislation.govt.nz/act/public/2010/0116/latest/DLM2634339.html

[2] http://www.legislation.govt.nz/act/public/1986/0005/latest/whole.html#DLM87629

The implication of this risk is reduced retail competition with higher electricity prices for consumers the consequence. To address the lack of retail competition in the region was a driver for BEL's investment in Pulse Energy Limited. Analysis undertaken on behalf of BEL indicates that competition benefits from the investment are worth several hundred thousands of dollars annually to Buller consumers.

Acting in the interest of Buller consumers, any action that improves the availability of local generation and as a consequence reduces the location factor between Westport and Benmore - the major location of electricity hedges – will further improve competitive outcomes and reduce electricity costs.[3] From this perspective, encouraging generation in the region through payment of an amount that reflects a reduction in transmission costs is clearly in the best interests of local consumers.

Avoidance of Costs

It needs to be remembered that end-use consumers always end up paying for the costs associated with the electricity supply they receive. If it is in their best interest for this cost to be reduced, the objective and purpose statements for the Commerce Commission and EA clearly indicate that it is, then actions that may result in lower costs should be supported.

The relevant question is therefore whether the avoidance of transmission charges either by end-use consumers or EDBs is a legitimate strategy. New Zealand has a long history of load management to minimise demand on networks at peak times. The Energy Efficiency and Conservation Authority have been tasked with implementing initiatives that will lead to an avoidance of transmission charges. Consumers have the opportunity to invest in many different technologies – from energy efficient appliances through to co-generation facilities (at both residential and industrial scales) - that will lead to the avoidance of transmission charges.

One outcome of these opportunities is that distribution companies are seeing both reducing load (MWs) and energy (MWhs). With declining transmission and distribution revenue the natural consequence.

Given that avoidance of transmission charges is a fundamental part of the electricity sector operations, the pertinent point is whether consumers on an EDB's network are worse off if ACOT payments are made to DG. Putting to one side the impact that ACOT has on raising the interconnection charge (this is easily remedied in setting the ACOT payment), the answer would appear to be no. Indeed, as commented above, consumers

[3] BEL notes that financial transmission rights have been discussed as an option for mitigating location factor risk, but development and implementation of these remains slow.

on BEL's network are better off from both an increase in retail competition and enhanced security of supply.

Technology Risk

Electricity networks also face an inherent risk from new technologies that may become substitutes for traditional sources of supply. But what is now considered as traditional supply (remote large generators and long transmission lines), replaced the previous island networks with local generation. With improving efficiency from smaller scale DG, large generation and transmission may be partially displaced in some regions in the future. This is not an argument about providing a financial advantage to DG through ACOT payments over grid based generation. After all, grid based generation does not pay transmission interconnection charges today so ACOT is only substituting for the transmission charge imposed on EDBs by the grid generation.

In theory Transpower is protected from revenue risk by having a revenue cap, which shields it from changes in demand, such as might occur over time through technology change. The revenue cap is assumed to provide a better mechanism for long-term investment incentives and thus promote dynamic efficiency. But the question is dynamic efficiency from whose perspective – transmission, consumers, NZ Inc?

A revenue cap might provide protection under an environment where large generation and transmission is the efficient technology, but clearly if DG is more efficient in terms of delivered energy prices, then this does not hold true. If EDBs do not look at how to accommodate new and efficient technology, then consumers will pick up the challenge and potentially embed the generation behind the customer meter. Not only will transmission be bypassed, but distribution as well.

Thus by focusing on ACOT the EA risks failing to address the more fundamental issue, which is the impact of technology on long-life network assets and the mechanism for the recovery of those costs. ACOT payments are but one outcome of a regulatory regime which has set a pricing model for the recovery of investment costs.

Security of Supply

The EA's discussion paper also makes reference to Transpower's asset planning documents and the suggestion that DG is unreliable as a transmission alternative under the N-1 security standard. While that may be so when there is one plant connected to a network, as more DG connects the same N-1 benefit arises as seen on the transmission network. In fact the security may be enhanced over transmission alternatives, as for many locations there are single transmission corridors into the region. While there may be redundancy from a transmission line perspective, when looking at certain risks such as earthquakes, there is essentially no N-1 security.

Regulatory Environment

A further issue of concern relates to the EA's approach to reform of the transmission pricing arrangements. The EA is a regulatory body. As such, it should adhere to what would be regarded as good regulatory practice.

One key feature of this is the need to provide a regulatory environment that has both flexibility to evolve and meet changing requirements and resilience to ensure it that it is not subject to random change. The energy sector internationally is replete with examples of regulatory changes with significant unintended consequences. Unfortunately, as commented above, end-use consumers always end up meeting the cost of unintended consequences.

It appears that the EA is pursuing a path of revolutionary change in regards to transmission pricing – ACOT payments being a subset – rather than evolutionary change as should be expected in an industry with long lived assets. Given the need for investors to make long-term investment decisions, the regulatory regime needs to be predictable and stable.

At a time when the industry has made real progress on a number of fronts it would seem strange that the EA would contemplate radical change in ACOT payments when the consequence of the change is not well understood for DG, distribution asset owners, transmission asset owners, retail markets, and customer prices. BEL acknowledges that the industry cannot stand still and so some change is inevitable, indeed desirable, but it should be considered change that allows the industry to evolve.

For example, it is recognised that there are clear linkages between distribution and transmission pricing methodologies. This suggests that from a regulatory policy perspective it is vital to contemplate these links openly in setting the Transmission pricing methodology and ACOT arrangements. Any failure to do so will likely result in price signals being sent that don't allow the benefits of DG to be attained for the benefit of consumers.

4. SUMMARY OF SUBMISSION

BEL's submission can be summarised as follows:

1. Retail electricity markets in many areas of New Zealand are regional in scope, in large part due to the absence of local generation and the price risk facing retailers from losses and constraints on the transmission system. These markets are subject to reduced levels of retail competition with real price impacts for consumers. Consequently, encouraging DG to connect in these regional markets enhances retail competition and reduces electricity costs to consumers. Substituting one expense (Transpower interconnection charges) for ACOT payments to DG would appear to be a rational response for a consumer owned EDB wanting to encourage retail competition for the benefit of consumers.

2. Avoidance of transmission charges is a fundamental part of the operation of the electricity industry in New Zealand networks, and it would seem strange that DG would be discriminated against as it appears may occur if ACOT payments were removed.

3. Technology change is a reality facing the electricity industry and DG is one manifestation of this change. Any action to limit DG may result in investors looking to embed behind the customer meter rather than within the distribution network. When this occurs, stranding of transmission and distribution will eventuate. Although it's likely that EDBs will have more avenues to mitigate their risks than Transpower.

4. The regulatory environment needs to ensure that it supports the evolution of the electricity industry. With this being achieved best through a regime that is both flexible and resilient. If the regime adopted for ACOT does not meet this test then unintended consequences are the certain outcome.