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**Post-Workshop Submission for the Commerce Commission's Cost of
Capital Workshop, November 12 and 13, 2009**

Submitted by

Wellington Electricity Lines Limited

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1. Introduction

1.1 Wellington Electricity Lines Limited (“WELL”) welcomes the opportunity to make a Post-Workshop Submission on the Commerce Commission’s (“CC’s”) Cost of Capital Workshop (“the Workshop”). WELL’s answers to the CC’s questions follow in Section 3.

1.2 For any questions related to this submission, please contact:

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2. General Comments

- 2.1 WELL stresses the importance of having an appropriate cost of capital to ensure that investors have incentives to invest in the supply of regulated services. We encourage the CC to err on the side of caution with regard to its estimation of the WACC. As we note in Section 3 in response to the CC's Issue 10, we consider the use of the Simplified Brennan-Lally ("SBL") model, should not be derived in a manner that under-estimates the WACC and breaches the CC's NPV=0 principle. The risk of underestimating the WACC is compounded as the electricity distribution industry is on the cusp of significant dynamic technical change which will impact on the manner in which network investment and network operation occur. This change is already evident with the proliferation of Distributed Generation ("DG"), the implementation and continued development of smart meters, communications and other equipment advancements, and the potential of future technologies such as electric vehicles. It is crucial that the network investments needed for these developments are not jeopardized by an under-estimation of the WACC.
- 2.2 We consider that it may become a misconception that Electricity Distribution Businesses ("EDBs") are static entities investing in long-term assets with little or no technological change. As noted above, a number of dynamic changes are occurring at present, or are anticipated in the immediate future and there is potential for longer term changes to network management and operation from a traditional 'passive' approach to an 'active' approach. In essence, this will move network management from a load delivery system to a load management system with a corresponding significant investment required in equipment, monitoring, control, communications and human resource expertise. These changes are distinct from the usual longer term outlook that EDBs have traditionally held and carry with them inherent risk and uncertainty that needs to be reflected in the CC's current deliberations on Cost of Capital.

2.3 DG is an example of a technology currently being deployed which is supported legislatively and encouraged from a government energy policy perspective. As DG is deployed (the amount of which is as yet uncertain), EDBs will need to move from a passive role to an active one of managing loads and generation injection across their networks in a way akin to a Transmission System Operator, but at the distribution network level. To support this new and active system operator like role, EDBs will need to invest in technologies, particularly communications technologies and system operation technologies. Communications technology is one area of rapid development and fast obsolescence. Businesses deploying communications technologies require a faster payback to avoid stranding risk. We draw a parallel with the technology needed to support DG to the Government's Ultra-Fast Broadband Investment Initiative,¹ where to enable ultra-fast broadband the government is partnering with private sector partners and taking on the commercial risk that is inherent with the deployment of such infrastructure. The CC needs to consider the risks that EDBs face when they deploy new infrastructure to support DG and other new technologies around demand side energy efficiency or innovation.

2.4 **Real Options**

EDBs will face many varied and dynamic changes over the next regulatory period. EDBs will need to make significant investments in infrastructure to support these new developments. The demand for these investments is uncertain and there is potential for a detrimental impact on company returns. In addition, these investments might be vulnerable to stranding or by-pass. For example, it is uncertain as to what the customer up-take of electric vehicles will be and how large an increase in network capacity will be needed to cater for that up-take. Furthermore, it is not known if other emerging technologies such as hydrogen powered vehicles will displace electric vehicles. Once made, such investments will largely be irreversible and sunk, destroying the value of real options. We believe that the WACC should be augmented to account for the value of real options.

¹ http://www.med.govt.nz/templates/ContentTopicSummary_41902.aspx

Even assuming no technological changes there is still a need to invest in capital and maintenance and there is flexibility on when and how this is achieved.

2.5 **The MRP and the Credit Crisis**

WELL notes that there is significant uncertainty around whether the effects of the global credit crisis will continue indefinitely or if over some period of time they will normalise to pre-crisis levels. It is, however, generally agreed that currently businesses are facing a higher Market Risk Premium (“MRP”). The CC’s advisor, Dr Martin Lally accepted that the MRP is probably currently higher than 7%.² Furthermore, the majority of the experts present at the conference appeared to agree that the MRP is currently higher, although the increase may be transitory.³ Therefore, the question appears to be not whether the MRP is higher, but for how long it will be higher. The CC appears to be concerned that if it sets a higher MRP now, but then the MRP soon reverts back to 7%, that firms would be over-compensated. However, even if the increase in the MRP is transitory, not adjusting the MRP will ensure that NPV is less than zero for regulated businesses.⁴ Were this to happen, it would disincentivise investors from making appropriate investments and this could be detrimental to consumers.

² Transcript, p. 95, lines 11 - 18.

³ Mr Newton for KPMG noted that they have lifted their point estimate of MRP to within a range of 7 to 8%, up from 7.5 to 7.75% - Transcript, p. 93, lines 14 – 17. Mr Redmayne for PWC noted that while they have kept MRP the same, they have a longer-term view than the CC’s 5 year regulatory period. They are, however, now adopting a more conservative view about growth assumptions that are provided to them – Transcript p.89, lines 16 -26.

⁴ For example, if the MRP is 7.5% for the first year of a regulatory cycle and the 7% for the remainder of the cycle, then setting the MRP at 7% for the whole cycle would, all other things being equal, result in a negative NPV.

2.6 Long-term Debt and the Credit Crisis

At the Workshop, Dr Brent Layton representing BARNZ queried why the market was not supplying long term funding, given the apparent preference of firms for long term debt.⁵ WELL is of the view that in normal times, accessibility to long term funding is expected, however, this expectation has been impacted on by the global credit crisis and this will likely be evident in the responses to the CC's November 4th 2009 Cost of Capital Data Request. EDBs do have a preference for long term debt given the long term nature of core electricity distribution assets, but the effects of the global credit crisis has made obtaining it very difficult or very expensive.

2.7 WELL is also supportive of the suggestion made at the Workshop that multiple instruments should be examined when determining the debt premium. Out of 29 EDBs, only the largest EDBs have access to the bond market. Furthermore, Vector indicated that it is not able to fund all of its debt requirements using bonds.⁶ Therefore, WELL believes there is merit in the proposal of Vector's, to price a notional debt book⁷ using multiple instruments or the tiered finance structure suggested by Andrew Shelly on behalf of Unison.⁸ WELL believes that the information required for this type of exercise can be obtained from firms themselves, as well as independent third parties. WELL looks forward to engaging with the CC on this issue.

⁵ Transcript p. 129, lines 11 – 17.

⁶ Transcript p. 144, lines 15 – 22.

⁷ Transcript p. 146, lines 19 – 22.

⁸ Transcript p. 167, lines 11 - 12. Essentially the CC would have a tier of different types of finance and calculate the debt premium based upon the type of finance (e.g. bank debt vs. bonds) that each firm is actually able to access.

2.8 The CC has proposed a benchmark credit rating of BBB+/A-. However, in practice many firms have had difficulty attaining that rating, perhaps in part due to the conservative nature of credit rating agencies given the level of corporate failures. We therefore support Mr Morgan of Unison in the proposal for a more realistic rating of BBB/BBB+⁹. We note the Australian Energy Regulator recently adopted a BBB+ rating for EDBs.¹⁰ WELL also agrees with Dr Lally that public sector entities should not be used in debt benchmarks, as per Table 4, p. 10 of the CC's straw person, as these as have an implicit government guarantee.¹¹

2.9 **Financeability**

WELL considers that the suggestion made by Mr Jeff Balchin, representing Christchurch International Airport and Powerco, that where financeability is a concern then some capex should be treated as opex¹², is worthy of further investigation by the CC.

2.10 Dr Brent Layton commented that where firms failed the financeability test¹³ they should be allowed to go broke. WELL notes that it is possible for an efficient firm to have financeability problems due to the way that price control has been imposed. Therefore the cause of the financeability problem must be determined before a solution can be implemented. The potential for a degradation in quality of service that would follow from a cash flow squeeze is unlikely to be an acceptable position and not in the best interests of consumers.

⁹ Transcript p. 145, lines 8 – 18.

¹⁰ Statement of regulatory intent on the revised WACC parameters—distribution, p. 7, AER website: [http://www.aer.gov.au/content/item.phtml?itemId=728181&nodeId=5df65d64d895b4d49e4ea3ef18eba108&fn=Final%20statements%20\(1%20May%202009\).pdf](http://www.aer.gov.au/content/item.phtml?itemId=728181&nodeId=5df65d64d895b4d49e4ea3ef18eba108&fn=Final%20statements%20(1%20May%202009).pdf)

¹¹ Transcript p. 157, lines 1 – 9.

¹² Transcript p. 57, lines 2 – 7.

¹³ Transcript p. 159, lines 27 – 32.

2.11 Hurdle Rate

WELL considers that a business's use of a hurdle rates is more than a way to address Project Manager optimism.¹⁴ Rather, firms commonly use hurdle rates as a required rate of return above which an investment makes sense and below which it does not. We suggest that most businesses have review processes in place to counter any over estimation from Project Managers and would not use a hurdle rate for this purpose. Hurdle rates can be used by firms to recognise that CAPM derived WACC estimates do not provide an accurate estimate of a firm's true cost of capital. In other words, hurdle rates can be thought of as a mechanism to take into account asymmetric risks, real options, model error, estimation error and capital constraints.

2.12 Leverage

The CC's current proposed range for notional leverage is 40-60%. WELL believes that the bottom end of this range is below that typically used when regulating electricity networks overseas and for 'normalised' capital structures for New Zealand EDBs. We have drawn on research by NERA Economic Consulting of the leverage assumptions used in major decisions for price regulation of electricity networks in the UK/EU. The results of this are set out in table 1 on the following page.

¹⁴ Transcript p. 18, lines 10 – 17.

Table 1: UK/EU leverage assumptions for electricity networks

Regulator	Country	Date	Year	Sector	Description	Gearing (D / (D + E))
Ofgem	UK	28/11/2004	2004	ED	Electricity Distribution (DNOs) - DPCR4 (2005-2010)	57.5%
CER	Ireland	1/09/2005	2005	ED	2006-2010 Distribution	50%
Oftel	N.Ireland	1/09/2006	2006	ED	Electricity Distribution (2007-12) - RP4	57.5%
CER	Ireland	1/09/2005	2005	ET	2006-2010 Transmission	50%
Oftel	N.Ireland	1/09/2006	2006	ET	Electricity Transmission (2007-12) - RP4	57.5%
Ofgem	UK	1/12/2006	2006	ET	Electricity Transmission (2007-12) - TPCR4	60%
Oftel	N.Ireland	19/06/2002	2002	ET&D	Transmission and Distribution Price Control Review (2002-2007) - RP3	50%
CRE	France	1/01/2005	2005	ET&D	CRE	50%
average						54%
median						54%

Source: NERA research

2.13 As can be seen from table 1, regulators in these countries typically use a leverage assumption of at least 50% when regulating electricity networks. This was recently confirmed in Ofgem’s draft decision¹⁵ on the next price path for EDBs in the UK which assumes a range for notional leverage of 55-65%. This evidence is consistent with practice in Australia where the notional leverage assumption for EDBs is 60%.¹⁶ The implication of this discussion is that there is little precedent for using a notional

¹⁵ <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=258&refer=Networks/ElecDist/PriceCtrls/DPCR5>

¹⁶ See, e.g. AER, *Electricity transmission and distribution network service providers - Review of the weighted average cost of capital (WACC) parameters – Final decision*, May 2009. The AER used four different methods to calculate average leverage. The average level of gearing across the four methods ranges from 62.1% to 65.4% over 2002 to 2007. Based on this analysis, the AER adopted the notional level of 60%.

leverage assumption of 40%. The practice of regulators in the UK, Ireland, France and Australia suggests that a range of 50-65% should be used.

- 2.14 WELL considers an industry-wide leverage assumption is appropriate for DPPs. The estimate needs to be referenced to 'normalised' capital structures to avoid comparisons with entities such as consumer trusts that have unique structures that arise through limited access to equity. Accordingly the CC should incorporate listed comparator firms in New Zealand and overseas to remove this distortion.

3 Consultation questions

Issue No.	Party raising issue	Matter discussed and transcript reference to discussion	Party to respond	Transcript reference to relevant comment and Comment from Wellington Electricity
Leverage				
10	Commission (Commissioner Duignan)	WACC increasing with leverage in SBL model (p. 96, line 32- p.115, line 23	All parties	<p>With regard to the WACC line in the Simplified Brennan-Lally (“SBL”) model sloping upward with leverage. Dr Martin Lally noted at the workshop¹⁷ and in his follow-up paper on the relationship between leverage and the cost of capital¹⁸ that this is a consequence of the debt premium and how it is integrated into the SBL model, with the cost of debt being the risk free rate plus a debt premium that is exogenous to the model.</p> <p>To explain the anomaly of the SBL model sloping upward with leverage, Dr Lally simplified the WACC formula such that $WACC = k_u + p(1 - t_c)L$</p> <p>Dr Lally considered that there were three reasons for a debt premium to be incorporated into the WACC formula:</p> <ol style="list-style-type: none"> 1. To account for corporate debt having systematic risk. 2. To account for corporate debt being relatively illiquid compared to

¹⁷ Transcript p. 113, lines 10 – 33 and p. 114 lines 1 – 23.

¹⁸ Lally, M. (2009), *WACC and Leverage*, paper prepared for the Commerce Commission..

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				<p>government bonds, so there is a liquidity premium attached to it.</p> <p>3. To account for the potential costs associated with corporates defaulting on debt and the associated bankruptcy risks.</p> <p>Dr Lally concluded that if the sole reason for a debt premium is to reward systematic risk,¹⁹ as per point no. 1, then the WACC line should remain flat. However, as Dr Lally noted, the second and third points are valid reasons for the WACC to increase with leverage.²⁰</p> <p>Therefore, Dr Lally's conclusion was that if WACC is defined properly then the WACC line will still slope upward with leverage, but not at as much as it does in the SBL model. Dr Lally's paper recommended three potential solutions:</p> <ol style="list-style-type: none"> a. To stick with the status quo of using the SBL model, but that this will over-estimate the WACC. b. To set leverage equal to zero, so an unlevered cost of capital is used, but this will under-estimate the WACC, c. To calculate WACC using the CAPM model, with debt betas and liquidity premiums for both debt and equity. However, doing this, as Dr Lally, noted is highly impractical. <p>WELL agrees with Dr Lally that (c) is not practical. With respect to choosing between (a) and (b), the following points are salient:</p>

¹⁹ i.e. the cost of debt was calculated using the CAPM.

²⁰ Transcript p. 113, lines 23 – 30.

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				<ul style="list-style-type: none"> ▪ Firms do have debt in their capital structure and thus an assumption of zero leverage would be contrary to observed behaviour; ▪ Given Dr Lally’s finding that the true WACC line rises with leverage, the SBL model is likely to be a closer reflection of reality; and ▪ It is better to over compensate than under compensate given the perverse affect on investment incentives (and thus outcomes for the long-term interests of consumers) of under compensation. <p>WELL therefore suggests the CC goes with the status quo, as per (a), as opposed to (b), because the status quo and its over-estimation of the WACC would represent less of a risk to regulated businesses and ultimately consumers than underestimating the WACC.</p>
Financeability				
19	Commission (Commissioner Duignan)	Actual vs. industry (p. 171, lines 8-17)	All parties	Prices paths are based on models that include some industry benchmark parameters. The purpose of a financeability test is to provide a “sanity check” on the modelled price path to ensure that regulation does not cause a firm to go bankrupt, degrade quality or increase its cost of capital by starving it of cash (and thus reducing the firm’s credit rating). In the context of the Customised Price Path (“CPP”), WELL believes that it is appropriate to use firm specific rather

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				than industry parameters.
Selecting a Point on the Range				
26	Commission (Commissioner Duignan)	Selecting the point on the range (p. 219, lines 30-33)	All parties	<p>Estimating of the WACC is subject to both model and estimation error. Therefore, there is a risk that the CC will set a price that differs from the true opportunity cost of providing the service. The CC has previously correctly recognised that the social costs of setting prices too low are greater than those of setting prices too high.²¹ The logic behind this is as follows:</p> <ul style="list-style-type: none"> ▪ Prices that are “too high” harm allocative efficiency; and ▪ Prices that are “too low” harm dynamic efficiency by deterring investment by the incumbent in its network. <p>Deterring investment has worse consequences for consumers than slightly higher prices – if investors cannot earn a reasonable return then assets will not be replaced and quality will decline. If the CC under compensates suppliers and deters investment it will not be promoting the long term interests of consumers. WELL therefore agrees with Dr Lally that the CC should not select a point below the 75th percentile.²²</p>

²¹ See, for example, Commerce Commission (2002), *Decision 477*, 5 November, paragraph 163.

²² Transcript p.225, lines 8 - 14.

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				<p>Additionally, the CC is attempting to estimate unobservable parameters for a model (the CAPM) that is acknowledged to be imperfect. Therefore, it should also be recognised that the true WACC can lie outside of the CC's estimated range.</p>