

## **REPORT TO TRANSPOWER NEW ZEALAND LIMITED**

Relating to a market based rate of return assessment

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16 August 2010

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## 1. Approach

- Cameron Partners Limited (“Cameron Partners”) has been engaged by Transpower New Zealand Limited (“Transpower”) to assist in the evaluation of the implications of the Commerce Commission’s approach to determining the rate of return on Transpower’s regulated activities (as set out in the Commerce Commission’s, Draft Input Methodologies, Transpower Reasons Paper, dated June 2010 (the “Commerce Commission Paper”).
- We provide this advice in accordance with the Code of Conduct for expert witnesses, as contained in the High Court Rules of New Zealand.
- We have been asked to assess the ‘rate of return’ (as measured by cash flow, earnings and other financial variables) which an external investor would apply to Transpower, given its asset base, activities, specific risks and leverage.
- In assessing the appropriate rate of return we note that the framework the Commerce Commission applies to regulated electricity distribution activities is that of a “workably competitive” market. In a workably competitive market firms continually strive for economic rents (through innovations and other forms of ‘differentiation’ to give them an advantage over competitors). These rents are inevitably temporary (‘quasi-rents’) as competitors mimic and match these sources of advantage and pass them on to consumers in the form of better prices and quality outcomes.
- Such an approach therefore suggests:
  - The appropriate ‘steady state’ rate of return to be established at the beginning of a regulatory period can be drawn from benchmarks which can be observed in ‘workably competitive’ markets since this represents the opportunity cost of investors providing capital to Transpower.
  - The regulatory framework should permit Transpower to retain additional gains (quasi-rents) it is able to achieve during the regulatory period since this incentivises Transpower to replicate a ‘workably competitive market dynamic’ where it continually drives for efficiencies and other improvements which are passed through to consumers in each new regulatory period.

- We believe this approach to establishing the rate of return on Transpower's regulated activities would ensure that appropriate levels of investment will take place in a timely and cost-effective way.
  
- This exercise will draw on:
  1. Insights provided by capital markets, including recommendations by the recent Capital Markets Development Taskforce.
  2. The observable benchmarks from capital markets (including EBITDA trading multiples, as well as RAB multiples).
  3. Published analysis undertaken by capital markets participants, in both New Zealand and Australia.
  
- Our analysis assesses the appropriateness of the Commerce Commission's approach to determining the rate of return on Transpower's regulated activities by asking the following questions:
  1. What return would an informed professional investor require from Transpower's regulated activities given the nature of its activities and assets?
  2. How does this compare with the Commerce Commission's approach to the rate of return on Transpower's regulated activities?
  
- Please note that our analysis does not draw on the capital asset pricing model ("CAPM") as a tool to assess an appropriate rate of return for Transpower, as other third parties (such as Graeme Guthrie) will be commenting on the application of CAPM. Rather, our approach acknowledges that, notwithstanding the well-known shortcomings of CAPM, it provides an appropriate starting point to assess the rate of return on Transpower's regulated activities. However, it is our view that in forming final judgments, the Commerce Commission needs to address CAPM shortcomings by explicitly considering and taking account of:
  - The measurement errors entailed in using a CAPM based approach, highlighted in Graeme Guthrie's report.
  - The specific New Zealand market risk factors highlighted in Harding Katz's report. This includes stranded asset risk and other risk factors that potentially deliver NPV negative outcomes which create incentives to deter capital expenditure.
  - The additional insights, information and analysis provided by capital markets to augment data points provided by CAPM.
  
- Accordingly, this paper should be read in conjunction with the conclusions that other third parties may draw.

## 2. Executive Summary

The analysis we have undertaken sets out an alternative approach to how an informed professional investor would assess the required rate of return (and value) of Transpower given the nature of its activities and assets in a post global financial crisis (“GFC”) world with a “new normal” investor environment.

### 2.2 Insights provided by capital markets

#### 2.2.1 Role of capital markets in providing information to assess a required rate of return

As noted in Section 1 above, public investment markets generate large quantities of information and analysis which enable us to look beyond theoretical pricing models, based on historical data, to understand how investors price risk, assess and determine required rates of return, and value investment opportunities.

The use of such information and analysis is particularly important in assessing investors ‘forward looking’ views given that capital markets have exhibited significant changes in valuation parameters following the GFC. Such changes not only reflect fundamental changes in investor and market perspectives of risk and earnings outlook, but they also highlight the potential ‘estimation errors’ of risk pricing models, such as CAPM, which are based on historical data.

As noted above, our approach will take account of the additional insights and information provided by capital markets in assessing an appropriate rate of return for Transpower. However, the Commerce Commission should also allow, and attempt to compensate, for specific New Zealand market factors, as identified in the report authored by Harding Katz<sup>1</sup> including:

- The potentially higher stranded asset risk.

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<sup>1</sup> Source: *Comparison of New Zealand and Australian Regulation of Electricity Transmission Networks Report*, dated August 2010, prepared by Harding Katz, Economic and Regulatory Consultants.

- Other risks identified by Harding Katz under the NZ regulatory regime that potentially deliver NPV negative outcomes and create incentives to deter capital expenditure.

Our report does not take account of these additional risk factors, as identified by Harding Katz.

Setting the appropriate regulatory rate of return should enable future investment in the firm to take place in a timely manner for the benefit of the firm as a whole, including its investors and consumers.

### **2.2.2 Capital Markets Development Taskforce recommendations**

The Capital Markets Development Taskforce (the “Taskforce”) provided the Government with a range of recommendations on the capital markets in New Zealand with two broad objectives:

- To create a healthy investment environment for retail investors.
- To enable New Zealand’s capital markets to be a more efficient ‘engine of growth’ for the economy.

A key focus of the Taskforce in achieving the first objective involved the deepening and broadening our public investment markets to improve investment choices for retail and professional investors. The importance of improving investor choices by deepening and broadening public investment markets recognises that such markets, relative to non public markets, provide investors with high standards of investor protection and, as a result of the quantity and quality of information flows and analysis they generate, offer investors liquid and ‘efficiently’ priced investment alternatives.

This highlights the fact that the opportunity cost of investing in Transpower’s regulated activities is the (risk adjusted) return that investors could obtain in alternative investments. Public markets provide valuable information for measuring such returns. Moreover, it is widely recognised that to act as socially efficient businesses, SOEs should have rates of return and investment criteria that mimic those of other investor held firms.

Given this background, and the factors above, it is appropriate to evaluate the Commerce Commission's approach to determining the rate of return on Transpower's regulated activities by asking the following questions:

- How would both retail and institutional investors assess the rate of return for Transpower?
- What return would investors require on new capital investments given that Transpower needs to ensure continued security of national energy supply by providing an ongoing and robust transmission system which will require substantial future capital expenditure?

The approach of this paper is, therefore to examine whether the Commerce Commission's approach to assessing the rate of return on Transpower's regulated activities is likely to produce a return sufficient to incentivise efficient investment that will promote the long term interests of consumers and attract investor risk capital.

### **2.3 Assessed rate of return for Transpower**

An alternative method for assessing the appropriate rate of return for Transpower is to:

- (i) estimate the implied firm-wide rate of return that an investor would deem appropriate from an investment in Transpower (with its mix of regulated and non regulated activities) using valuation benchmarks observable from capital markets; and
- (ii) calculate the implied required regulatory return on regulated activities using Transpower's financial model.

We then cross-check the implied firm-wide rate of return and the required regulatory return on both Transpower's total and regulated activities (calculated on this basis) by using other available market-based analyses and information.

#### **2.3.1 Estimated firm-wide rate of return for Transpower**

We have estimated the implied firm-wide rate of return for Transpower as follows:

- We begin by using both EBITDA multiple analysis and RAB multiple analysis based on available capital markets data to assess the enterprise valuation range for Transpower, which we estimate at 30 June 2010 to be between \$3.3 billion and \$3.7 billion, with a mid point of \$3.5

billion. Refer Section 3.1 for a further discussion of this analysis. We note that our assessed mid point enterprise value of \$3.5 billion for Transpower is not materially different to Transpower's estimated book value of its liabilities plus equity of \$3.4 billion at 30 June 2010<sup>2</sup>.

- The enterprise value includes net debt with a market value of around \$1.7 billion (as at 30 June 2010), at an average pre tax cost of debt of 7.4%. The cost of debt is likely to trend higher as the economic recovery takes place, so we apply a cost of debt range of between 7.4% (current) and 8.4% (estimated average rate over the regulatory period), with a mid point of 7.9%. We note that this compares to Bob Officer's average cost of debt assessment of 8.4%<sup>3</sup> and the Commerce Commission's current assessment of 7.7%.
- The assessed mid point enterprise value of \$3.5 billion, including the market value of debt of \$1.7 billion (at 30 June 2010), implies a current debt to enterprise value ratio of 48.6%. Transpower expects its gearing level to increase over time given its forecast future capital expenditure. Based on an analysis of the Transpower base case financial model, the ratio of debt / (liabilities + equity) over the forecast 10 year period shows an average ratio of around 55%. Thus, we have used a gearing ratio of between 48.6% (current) and 55% (mid cycle level) as the gearing level range for Transpower.
- From the above analysis, we assess that the equity return that investors would be seeking to make an investment in Transpower (with its mix of both regulated and non regulated activities) would be between 11% and 13%, with a mid point of 12%. Refer Section 3.4 for a further discussion of this analysis.
- Using an equity return of between 11% and 13% and a pre tax cost of debt range of between 7.4% (current) and 8.4% (mid cycle), we estimate the implied firm-wide rate of return for Transpower to be a range of rates between 8.2% and 9.3%, with an average of 8.7%, as follows:

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<sup>2</sup> Source: Transpower base case financial model.

<sup>3</sup> Source: Independent Review of Commerce Commission's WACC Proposals For Transpower Report, dated August 2010, authored by Professor RR Officer and Dr S Bishop.

<b>Rate of return assessment</b>				
Required equity return range	11.0%	11.0%	13.0%	13.0%
Average cost of debt (pre tax)	7.4%	8.4%	7.4%	8.4%
Market value of debt (NZ\$' billion)	1.7		1.7	
Mid point enterprise value (NZ\$' billion)	3.5		3.5	
Debt ratio	48.6%	55.0%	48.6%	55.0%
<b>Firm-wide rate of return range</b>	<b>8.2%</b>	<b>8.3%</b>	<b>9.3%</b>	<b>9.2%</b>
<b>Average rate of return</b>			<b>8.7%</b>	

Given the small relative size and characteristics of Transpower's unregulated activities, our estimate of the average firm-wide return of 8.7% represents a realistic estimate of the returns investors would expect Transpower to earn on its regulated activities.

Moreover, as noted above, our midpoint firm-wide rate of return assessment does not take account of specific New Zealand market factors, such as stranded asset risk that Harding Katz identify in their report. Additional adjustments should be made for these factors in setting the regulatory return.

### 2.3.2 Estimated implied regulatory return

The implied regulatory return is 8.7%, applying the following assumptions to the Transpower financial model:

- A discount rate of 8.7% (being the firm-wide return) applied to firm wide cash flows over a 10 year period.
- An assessed mid point enterprise value for Transpower of \$3.5 billion.
- A terminal growth rate of 0% (real) applied to free cash flow from year 10 and into perpetuity to calculate a terminal value of Transpower's regulated assets.
- A terminal growth rate of 1.0% (real) applied to free cash flow from year 10 and into perpetuity to calculate a terminal value of Transpower's non regulated assets.

We have cross-checked the key assumptions adopted in the methodology above from a range of capital markets sources, including:

- Using appropriate EBITDA and RAB multiples to determine an enterprise valuation range for Transpower.
- Sanity checking the rate of return assessment of 8.7%, against the returns Australian listed regulated businesses, noting that these returns have changed following the GFC.
- Examining the required equity returns that an investor would expect from Transpower, including reference to an interview with a leading New Zealand fund manager.
- Assessing what analysts are saying in their brokers' notes on regulated Australian and New Zealand businesses.

These key assumptions are discussed further in Section 3 below.

### **3. Key assumptions used to assess the rate of return for Transpower**

The key assumptions adopted in the methodology to assess a firm-wide rate of return for Transpower of 8.7%, have been cross-checked with a range of capital markets sources, as set out below.

#### **3.1 Assessment of the enterprise value of Transpower**

To assess the enterprise value of Transpower we have relied on:

- (i) EBITDA trading multiples; and
- (ii) Regulatory asset base (“RAB”) multiples.

##### **3.1.1 EBITDA trading multiples**

We have undertaken an analysis of current EBITDA trading multiples of a selection of internationally listed regulated distribution businesses.

Based on our findings, the EBITDA multiple range for listed regulated businesses has reduced over the last two years, implying that for each of these companies, there has been some combination of market expected return increases and earnings growth revisions that has been assessed by the market. We take this analysis further, by looking in more detail below at the implied firm-wide rates of return for each of the listed Australian regulated distribution businesses. Refer section 3.2 below.

We have focused our trading multiples and firm-wide rates of return comparison on listed companies in Australia because: (i) Australia has adopted a broadly similar approach to the regulation of energy distribution; (ii) there are a number of regulated energy distribution businesses listed on the Australian Stock Exchange; (iii) it is a large, liquid stock market which generates high levels of public information and company analysis; and (iv) the New Zealand and Australian capital markets are closely integrated (see Capital Markets Development Taskforce Report) with common investors and mobile capital, and information flows which permit valid trading multiple comparisons.

The average EBITDA multiple for the listed Australian regulated companies is around 9.9x (historic) and 9.7x (current year). However, Vector is trading on a 2010 EBITDA multiple of around 7.8x and a 2011 EBITDA multiple of 7.7x. Refer Appendix 1 for this analysis and the discussion in Section 3.4 which indicates that the Australian companies trade on higher multiples primarily because, compared to Vector, they have higher expected earnings growth rates and different shareholder and governance structures.

We assess the appropriate EBITDA multiple range to be 7.5x and 9.0x to apply to Transpower's EBITDA for the year to 30 June 2010 of \$425 million<sup>4</sup>. That would imply an enterprise valuation in the range of \$3.2 billion to \$3.8 billion, with a mid point of \$3.6 billion.

### 3.1.2 RAB multiples

We assess that the enterprise value of Transpower should be at a modest premium to its RAB for a number of reasons, including:

- the fact the regulatory environment should enable and encourage regulated businesses to temporarily capture benefits of improvements in efficiency, as occurs in competitive markets;
- most regulated businesses also operate unregulated activities (although Transpower predominantly has regulated activities);
- asset market values are higher than depreciated book values for most companies, primarily because the overall level of corporate investment is understated by accounting rules that require expensing of long term investments such as R&D, advertising and employee training; and
- as in workably competitive markets, valuations reflect the 'real options' available to firms (e.g. from the ability to defer investments or from temporarily creating excess capacity) that are very difficult to capture in a discounted cashflow methodology.

The transaction evidence set out in Appendices 2 and 3 also provides support that regulated energy distribution assets trade at a premium to RAB.

We assess that an appropriate RAB multiple range to apply to Transpower is between 1.20x and 1.35x. This is based on the RAB multiple range of 1.23x to 1.35x that the brokers currently assess for Vector's electricity assets, as discussed in Section 3.3 below.

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<sup>4</sup> Source: Transpower financial model

We also note that Horizon Energy, which is listed on the New Zealand Stock Exchange and has over 95% of its business focused on regulated electricity distribution activities, is currently trading on a RAB multiple of around 1.5x (being enterprise value / RAB). However, it is a smaller business, with a current enterprise value of around \$128 million<sup>5</sup>, and its shares have a relatively low level of liquidity.

We also set out in Appendices 2 and 3, the average historic RAB multiples for transactions in both Australia and New Zealand. These show average RAB transaction multiples of around 1.5x for Australia and 1.9x for New Zealand. However, we do not assess it appropriate to apply the average Australian or New Zealand transaction multiples to our range given these historic multiples are predominantly all pre GFC and there are no recent transactions since the GFC to update the data. These transaction multiples are also event driven (i.e. they are not trading multiples) and include some non regulated activities in the multiple calculation, which can distort the data for comparison purposes.

Transpower has an RAB of \$2.4 billion (plus a book value of \$0.4 billion for the non regulated assets)<sup>6</sup>.

If we apply a RAB multiple of 1.20x to 1.35x to Transpower's RAB that would provide a value of \$2.9 billion to \$3.25 billion. In addition, the non regulated assets have a book value of around \$0.4 billion. This would give an overall enterprise value range for Transpower of \$3.3 billion to \$3.65 billion, with a mid point of \$3.5 billion. This implies a 30 June 2011 EBITDA multiple of between 7.6x and 8.4x (and a 30 June 2010 EBITDA multiple of between 7.8x and 8.6x), which is in line with our assessed EBITDA multiple range outlined above.

Overall, based on both EBITDA and RAB multiple analysis, we assess that the appropriate value range for Transpower to be \$3.3 billion to \$3.7 billion, with a mid point of \$3.5 billion.

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<sup>5</sup> Source: CapitalIQ financial information database

<sup>6</sup> Source: Transpower

### 3.2 Rate of return comparison with Australian listed regulated and other infrastructure companies

As part of this analysis we assess (using additional information) how market valuation multiples have been impacted due to changes in market perceptions of risk and growth pre and post the global financial crisis (“GFC”) and how they will have changed firm-wide rates of return.

We have analysed the implied returns for the listed infrastructure and regulated distribution companies in Australia. This information has been sourced from an analysis authored by Merrill Lynch, dated 2 July 2010, on the Australian Infrastructure sector. They have estimated the implied “WACC’s” and “equity IRR’s” for each company. Given that this data is based on respective company market valuations at the beginning of July 2010, utilising their (leveraged and unleveraged) cash flow forecasts for each of the companies generated by their financial models, we interpret this data as the firm-wide expected returns and equity returns, respectively for each company.

As set out in the table below, the average equity IRR for the five key regulated utilities is 15.3% and the market WACC is around 11.5% (from a range of 9.6% to 12.5%). The average equity IRR for the unregulated infrastructure businesses is around 13.1% and the market WACC is around 11.1%.

We note that the average market WACC of 11.5% for the Australian regulated businesses is implicitly higher than for New Zealand regulated businesses due to:

- The different way Australian returns are typically calculated, including the adjustment made for the impact of franking credits.
- Some Australian regulated businesses having a higher mix of non regulated activities.

Equity IRR’s are likely to be impacted by these factors above plus the fact that the Australian regulated businesses are all rated A- and below (with perceived greater financial risk than Transpower).

## Implied returns for listed infrastructure companies in Australia

<b>Regulated listed companies</b>	<b>Equity Return</b>	<b>Firm-Wide Return</b>	<b>Rating</b>
SP AusNet	18.3%	12.5%	A-
Duet	17.4%	12.4%	BBB-
APA Group	14.7%	12.4%	Baa2
Spark Infrastructure	14.8%	10.7%	Baa1
Envestra	11.5%	9.6%	BBB-
<b>Average</b>	<b>15.3%</b>	<b>11.5%</b>	
<b>Other listed infrastructure companies</b>			
Australian Infrastructure Fund	17.6%	14.6%	n.a.
Map Group	16.5%	13.2%	n.a.
Connect East	12.3%	11.4%	n.a.
Asciano	12.1%	10.6%	BBB-
Transurban	12.1%	10.3%	n.a.
Challenger Infrastructure	14.2%	10.1%	n.a.
Intoll Group	10.3%	9.6%	n.a.
Hastings Diversified Utilities Fund	10.0%	8.6%	n.a.
<b>Average</b>	<b>13.1%</b>	<b>11.1%</b>	

Source: Merrill Lynch research note, dated 2 July 2010

The required equity returns implied by current trading valuations (and multiples) in the Australian regulated and infrastructure sector are substantially above the averages that were typically seen pre GFC, which were in the 10-12% range (being the return on equity). This suggests that rates of return are now typically higher than they were before the GFC<sup>7</sup>.

The increase in required rates of return in the Australian infrastructure sector is also supported by analysis undertaken in the USA by Gregory Milano (from Fortune Advisors LLC). This analysis is insightful given the US market is one of the largest and most liquid capital markets in the world and is well integrated with other developed capital markets, including Australia and New Zealand. The analysis shows that for the largest

<sup>7</sup> Source: Rothschild, Australia

1,000 non financial companies in the USA, the required firm-wide rates of return have increased to over 10% as at December 2009, from less than 9% during 2006 and 2007. This analysis also provides the required rates of return by USA industry as at February 2010 - with utilities at 9.2%, energy at 10.3% and telecommunication services at 11.7%. Refer Appendix 5.

Analysts and advisers have attributed the rise in multiples and required returns for Australian infrastructure companies following the GFC to a combination of reasons, including:

- (i) Market perceptions of equity risk and returns have changed distinctly in the aftermath of the GFC (and a recognition that markets are typically more prone than previously thought to financial crises and changes in market valuations).
- (ii) Pre GFC valuation levels, especially for infrastructure funds, were supported by high yields from stapled fund vehicles. These were typically highly geared to pay distributions. These are no longer attractive to investors – these stocks now tend to pay dividends from operating cash flows, rather than financing activities.
- (iii) There is now a higher level of general market concerns relating to high leverage and refinancing risk.
- (iv) Investor sentiment towards externally managed funds and infrastructure assets (e.g. DUET, SP Ausnet and Spark Infrastructure) has significantly deteriorated.
- (v) There is now a perception that regulatory regimes and regulatory risk exposures are greater than previously assessed.

The consensus view is that this environment is unlikely to change for some time given the uncertainty about the profile of economic recovery and risks to global capital markets arising from factors such as concerns about European debt burdens.

### **3.3 An analysis of recent comments from equity analysts regarding the regulated return**

We have reviewed a selection of equity analyst broker notes on regulated listed companies in New Zealand and Australia. In particular, we have focused on Vector, because it is the largest listed regulated company on the New Zealand Stock Exchange and receives regular analyst coverage.

These analyst comments are relevant to our assessment in this paper as they: (i) provide predictions of the regulatory rate (which they use in their financial models); and (ii) produce investor recommendations relative to the current market value of Vector, based on their assumptions.

In their financial models for Vector, the analysts assume that the regulated return for Vector, based on the Commerce Commission's Draft Input Methodologies Paper, is likely to be between 8.1% and 9.25%, assuming a P75 WACC. We note that First NZ Capital state, in their Advisor Daily note of 9 August 2010, that the upper range of the cost of capital estimate for Vector on a post tax basis (at the 75<sup>th</sup> percentile with an ROI band of 1.0% to 1.25% applied – per the Commerce Commission's note of 5 August 2010) will be 8.57% to 8.82%. They have used this regulatory rate range in their latest financial models.

Using their respective assumptions, the most recent analysts reviews predominantly have Hold or Underperform ratings on Vector, given its earnings and cash flow growth outlook (taking account of estimated regulatory rates), and when compared to its market valuation today.

They also assess that the applicable regulatory asset base ("RAB") multiple to be applied to their estimates of Vector's electricity RAB is between 1.23x and 1.35x. One broker uses an assessed rate of 1.30x to value Vector's regulated electricity assets<sup>8</sup>. We have used this analysis in Section 3.1.2.

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<sup>8</sup> Source: Craigs Investment Partners brokers note on Vector, dated 26 May 2010, which included a "BUY" rating.

### 3.4 Comments from a leading New Zealand fund manager on expected equity returns

We have held a confidential discussion with an analyst and a fund manager at a leading New Zealand fund to seek their views on the returns they would expect to achieve from regulated distribution businesses (that also include some non regulated activities) in New Zealand.

They prefaced their views with the following observations:

- (i) The Australian regulated businesses trade on higher multiples than in New Zealand primarily because the expected growth for these businesses in Australia is higher than in New Zealand. This is supported by the analysis set out in Appendix 3 showing that in 2011 and 2012, the relevant Australian companies are estimated to have average EBITDA growth of over 6%.
- (ii) The higher liquidity in the Australian market compared to the New Zealand market also contributes to the high multiples.

In particular, they assess that Vector has other factors which impact on its EBITDA trading multiples and its valuation, including:

- Governance and ownership issues.
- It is relatively illiquid and is “not particularly investible” for a global investor.

Overall, the analyst and fund manager assessed that if they were to invest in a regulated business in New Zealand (which also included some ancillary non regulated activities), they would be seeking a “double digit” equity return. They assessed that their equity return expectation would be in the range of 10% to 12% (but, it would not be as high as 15%). For confidentiality reasons, we did not specifically discuss Transpower with the fund manager and the impact that future capital expenditure commitments would have on their expected equity rate of return.

We have adjusted the fund manager’s equity return range upwards by 1.0% (to give a mid point of 12%), given:

- The significant capital expenditure profile that Transpower is forecasting, which is likely to increase its gearing ratios to around 55% (mid cycle), as well as its risk profile.

- Earnings growth relative to Australian regulated businesses is significantly lower. We note that the average equity returns for the Australian regulated businesses is 15.3% (refer Section 3.2). However, all of the Australian businesses have credit ratings lower than Transpower which has a rating of AA (and therefore inherently deemed to have a greater risk profile).
- There is greater liquidity risk from investing in the New Zealand market.
- Returns that can be earned from alternatively investments such as rated NZ bonds which are broadly trading in the range of 6.0% to 8.0% (and are typically lower risk than equity investments). However, equity investors should not expect the types of returns that private equity investors require for more illiquid investments.

However, this assessed equity return range of 11% to 13% is unlikely to take account of the specific New Zealand market risk factors that Harding Katz note in their paper, such as stranded asset risk. As already mentioned, we make no adjustment for these factors.

Intuitively we believe that a required rate of return on equity of 11% to 13% (with a mid point of 12%) seems appropriate for investors in Transpower with a significant forecast capital expenditure program. This range has been used in our firm-wide rate of return calculation, set out in section 2.3.1.

### 3.5 Conclusions

We have assessed the appropriate firm-wide average rate of return for Transpower of 8.7%. This is equivalent to the implied regulatory return, but makes no allowance for the specific risks identified in the Harding Katz report.

We have cross-checked the key assumptions adopted in the methodology above from a range of capital markets sources, including:

- Using appropriate EBITDA and RAB multiples to determine an enterprise valuation range for Transpower.
- Sanity checking the rate of return assessment of 8.7%, against the returns Australian listed regulated businesses, noting that these returns have changed following the GFC.
- Examining the required equity returns that an investor would expect from Transpower, including reference to an interview with a leading New Zealand fund manager.
- Assessing what analysts are saying in their brokers' notes on regulated Australian and New Zealand businesses.

We have illustrated that post GFC required rates of return have increased in the USA and more specifically in the Australasian infrastructure sector. Furthermore, our analysis illustrates that market valuation multiples have generally declined post GFC for two reasons: (i) decreased expected earnings growth; and (ii) increased perceptions of risk. The decline in earnings for regulated businesses is likely to be less than for companies in some other sectors. Therefore this implies a significant portion of the change in valuation multiples is due to increased perceptions of risk for such regulated businesses.

Our analysis does not draw on CAPM as a tool to assess an appropriate rate of return for Transpower, as other third parties (such as Graeme Guthrie) have commented on the application of CAPM. Rather, our approach acknowledges that, notwithstanding the well-known shortcomings of CAPM, it provides an appropriate starting point to assess the rate of return on Transpower's regulated activities. However, it is our view that in forming final judgments, the Commerce Commission needs to address CAPM shortcomings by explicitly considering and taking account of:

- The measurement errors entailed in using a CAPM based approach, highlighted in Graeme Guthrie's report<sup>9</sup>.

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<sup>9</sup> Source: *Measurement Error and Regulated Firms' Allowed Rates of Return Report*, dated August 2010, authored by Graeme Guthrie.

- The additional insights, information and analysis provided by capital markets to augment data points provided by CAPM, which we have commented on in this report.
- The specific New Zealand market risk factors highlighted in Harding Katz's report. This includes stranded asset risk and other risk factors that potentially that potentially deliver NPV negative outcomes which create incentives to deter capital expenditure.

Our conclusions are consistent with the report authored by Graeme Guthrie. Our assessed regulatory return for Transpower of 8.7% (average) is likely to be higher than a regulatory return calculated using the CAPM model. Graeme Guthrie states: "this is primarily due to measurement error when setting regulated firms' allowed rates of return". He notes that: "if a regulated firm's allowed rate of return is lower than its cost of capital then the firm will under-invest, which will lead to a relatively large welfare loss. Expected welfare losses can be minimised by setting the allowed rate of return at some point greater than the point estimate of the CAPM-based WACC."

He states that three sources of measurement error arise when setting the allowed rate of return for a firm:

- The error in estimating the CAPM-based WACC at the start of the regulatory cycle ("estimation error");
- The difference between the firm's actual cost of capital and the theoretical prediction generated by the CAPM-WACC model ("model error"); and
- Changes in the actual cost of capital since the start of the current regulatory cycle ("intra-cycle variation").

Graeme Guthrie's paper concludes that "if the Commerce Commission adopts its proposed approach to calculating the standard error, then – if model error were negligible – its allowed rate of return would be 0.25% to 0.40% too low to achieve its target of only one firm in four having an incentive to under-invest; it would be 1.10% to 1.35% too low to achieve a one-in-ten standard. The outlook is even worse once we recognise the existence of model error."

From an investor perspective, our assessment of the average required rate of return for Transpower's regulated activities is 8.7%. If the regulatory rate is set lower than 8.7%, a capital markets equity investor is likely to conclude that Transpower will generate insufficient returns on new investments. Accordingly, the risk is that the investor perceives that: (a) the return does not justify the risk; and (b) they can achieve better returns from alternative investment opportunities.

However, as previously noted our assessment does not take account of the specific New Zealand market risk factors that are identified in the paper authored by Harding Katz. These risk factors include stranded asset risk as well as other risks that may create incentives for a firm to defer investment in the New Zealand regulatory environment. The Commerce Commission should make an additional adjustment for these risk factors in setting the regulatory rate for Transpower.

## Appendices

### A1 – EBITDA trading multiples of internationally listed regulated distribution companies

We have undertaken an analysis of current EBITDA trading multiples of a selection of internationally listed regulated distribution businesses. As part of this analysis we assess (using additional information) how market valuation multiples have been impacted due to changes in market perceptions of risk and growth pre and post the global financial crisis (“GFC”) and how they will have changed rates of return.

EBITDA multiples make an assessment on an unleveraged basis to enable a comparison to be undertaken. They also enable a comparison to be undertaken given the different capital expenditure profiles of each company (which can impact EBIT multiples).

Current EBITDA trading multiples sourced from CapitalIQ (as at 9 August 2010) are set out below:

Utility Company	Country	Primary Industry	Market Capitalisation (million)	Enterprise Value (million)	EV / EBITDA		EV / EBIT		P / E		Net Debt	Dividend
					LTM	NTM	LTM	NTM	LTM	NTM	/ EBITDA	Yield
National Grid	England	Multi-Utilities	18,287	41,418	10.1x	9.1x	14.0x	12.3x	17.3x	12.8x	5.1x	7.3%
Centrica	England	Multi-Utilities	16,427	19,356	7.7x	7.1x	10.0x	9.6x	46.5x	15.8x	0.9x	4.0%
Veolia Environnement	France	Multi-Utilities	10,225	28,312	7.6x	7.6x	14.0x	14.3x	20.7x	16.9x	4.2x	5.7%
Public Service Enterprise Group	U.S.	Multi-Utilities	16,565	25,637	6.8x	6.4x	8.9x	8.2x	11.9x	10.5x	2.3x	4.2%
PG & E Corp.	U.S.	Multi-Utilities	17,834	30,683	7.4x	7.0x	13.3x	12.0x	13.9x	14.0x	2.8x	4.0%
Consolidated Edison	U.S.	Multi-Utilities	13,445	24,598	9.7x	8.8x	13.8x	12.3x	13.0x	15.0x	3.9x	5.0%
Sempra Energy	U.S.	Multi-Utilities	12,839	21,754	10.9x	9.5x	17.2x	14.7x	11.5x	12.7x	3.8x	3.0%
SP AusNet	Australia	Electric Utilities	2,157	6,239	8.6x	7.9x	12.1x	11.3x	13.3x	10.3x	5.2x	10.2%
APA Group	Australia	Gas Utilities	2,017	4,775	10.6x	10.4x	13.4x	12.9x	25.6x	18.0x	6.1x	8.3%
DUET Group	Australia	Multi-Utilities	1,445	6,673	10.8x	9.4x	14.7x	12.6x	-23.2x	11.4x	6.2x	12.0%
Spark Infrastructure Group	Australia	Electric Utilities	1,218	2,789	10.3x	11.3x	10.3x	11.1x	9.9x	13.7x	5.8x	11.5%
Envestra	Australia	Gas Utilities	707	2,566	9.5x	9.7x	12.1x	12.3x	17.6x	18.2x	7.0x	10.8%
Vector	New Zealand	Multi-Utilities	2,091	4,425	7.8x	7.7x	10.1x	10.5x	5.6x	12.2x	4.1x	6.5%
<b>Mean All</b>					<b>9.1x</b>	<b>8.6x</b>	<b>12.6x</b>	<b>11.9x</b>	<b>14.1x</b>	<b>13.9x</b>	<b>4.4x</b>	<b>7.1%</b>
<b>Median All</b>					<b>8.1x</b>	<b>7.7x</b>	<b>13.5x</b>	<b>12.2x</b>	<b>13.6x</b>	<b>13.4x</b>	<b>3.9x</b>	<b>4.6%</b>
Mean Australian Companies					9.9x	9.7x	12.5x	12.0x	8.6x	14.3x	6.1x	10.6%
Median Australian Companies					10.3x	9.7x	12.1x	12.3x	13.3x	13.7x	6.1x	10.8%

The average EBITDA multiples above have decreased to a range of around 8.6x to 9.1x for all the companies above.

Utility Company (Data as at 30 June 2007)	Country	Primary Industry	Market Capitalisation (million)	Enterprise Value (million)	EV / EBITDA			EV / EBIT			Net Debt / EBITDA		
					2006	2007	2008	2006	2007	2008	2006	2007	2008
SP AusNet	Australia	Electric Utilities	3,369	7,285	12.5x	10.4x	10.1x	18.1x	15.2x	14.8x	6.7x	5.6x	5.4x
APA Group	Australia	Gas Utilities	1,992	4,431	20.0x	13.8x	11.1x	24.7x	17.9x	14.2x	11.0x	7.6x	6.1x
DUET Group	Australia	Multi-Utilities	2,110	6,764	10.9x	12.4x	10.4x	14.3x	15.2x	13.6x	7.4x	8.4x	7.0x
Envestra	Australia	Electric Utilities	1,085	3,237	12.2x	12.4x	12.8x	15.7x	16.3x	17.0x	8.1x	8.3x	8.5x
Vector	New Zealand	Multi-Utilities	2,720	5,786	10.0x	9.4x	9.2x	15.9x	14.7x	13.2x	5.3x	5.0x	4.9x
Mean Australian companies					<b>13.9x</b>	<b>12.3x</b>	<b>11.1x</b>	<b>18.2x</b>	<b>16.2x</b>	<b>14.9x</b>	<b>8.3x</b>	<b>7.5x</b>	<b>6.8x</b>
Median Australian companies					<b>12.4x</b>	<b>12.4x</b>	<b>10.8x</b>	<b>16.9x</b>	<b>15.8x</b>	<b>14.5x</b>	<b>7.8x</b>	<b>8.0x</b>	<b>6.6x</b>

Source: First NZ Capital report, 2007

The average EBITDA multiples for the Australian listed regulated companies are currently around 9.9x (historic) and 9.7x (current year). This may be broadly compared to an average range of 12.3x to 11.1x for such companies in mid 2007.

The EBITDA multiples for Vector (as at July 2007) were 9.4x (2007 - historic) and 9.2x (2008 – current year). Its EBITDA multiples today are 7.8x (2009 - historic) and 7.7x (2010 – current year), showing a decrease of around 17% in the historic EBITDA multiple.

## A2 – New Zealand RAB transaction multiples

Set out below are the recent RAB transaction multiples derived from transactions in the New Zealand distribution sector<sup>10</sup>.

Date	Vendor / Target	Acquirer	Price	EV / RAB Multiple	EV/EBIT (Historical)	EV/EBIT (Forecast)	EV/EBITDA (Historical)	EV/EBITDA (Forecast)
Feb-09	Powerco stake (58%)	QIC	2,050	1.7	13.1x	17.0x	9.1x	10.5x
Apr-08	Vector's Wellington Network	CKI	785	1.8			8.4x	9.8x
Nov-04	Powerco	Prime Infrastructure (Babcock & Brown)	1,791	1.9	14.8x	8.9x	9.7x	6.8x
Sep-02	United Networks	Vector	1,369	2.1	11.8x	11.3x	9.0x	8.7x
Sep-02	United Networks	Powerco	590	1.8			9.0x	8.9x
Sep-02	United Networks	Hawkes Bay Network	195	2.2				
Jun-02	Otago Power	Consortium	109	2.0	28.0x	23.2x	21.0x	18.5x
Nov-99	Horizon	BOP Electricity	52	1.4	9.9x	9.9x	8.3x	7.9x
Feb-99	Central Electric	Dunedin Electricity	127	2.0			21.9x	
Nov-98	Transalta	United Networks	590	1.9			8.4x	
Nov-98	Trustpower	United Networks	485	2.1			12.8x	
Dec-88	Wairarapa Electricity	Powerco	83	1.3				
<b>Mean</b>				<b>1.9</b>	<b>15.5</b>	<b>14.1</b>	<b>11.8</b>	<b>10.2</b>
<b>Median</b>				<b>1.9</b>	<b>13.1</b>	<b>11.3</b>	<b>9.1</b>	<b>8.9</b>

<sup>10</sup> Source: CapitalIQ financial database

### A3 –Australian RAB transaction multiples

Set out below are the recent RAB transaction multiples derived from transactions in the Australian gas and electricity distribution sector.

Target	Buyer	Location	Date	EV (A\$m)	EV/EBITDA	EV/RAB	Fuel Type
Envestra	APA Group	Various state	Apr-07	2,928	12.3x	1.4x	Gas
Allgas	APA Group	Queensland	Nov-06	535	20.6x	1.7x	Gas
Multinet	Alinta/AMP Henderson	Victoria	Apr-03	1,171	n.a.	1.4x	Gas
Alinta Networks	AMP Henderson	Western Australia	Apr-03	798	n.a.	1.4x	Gas
United Energy	Alinta/AMP Henderson	Victoria	Apr-03	1,804	6.8x	1.5x	Electricity
Citipower	CKI/HKE	Victoria	Aug-02	1,418	10.8x	1.7x	Electricity
Powercor	CKI/HKE	Victoria	Sep-00	2,000	6.5x	1.5x	Electricity
ETSA Utilities	CKI/HKE	South Australia	Jan-00	3,475	9.4x	1.2x	Electricity
Multinet	Energy Partnership	Victoria	Mar-99	1,970	15.0x	1.9x	Gas
Stratus	Envestra	Victoria	Mar-99	1,670	n.a.	1.9x	Gas
Westar	TXU Corporation	Victoria	Jan-99	1,617	16.0x	1.8x	Gas
Citipower	Entergy Corporation	Victoria	Dec-95	1,580	12.4x	n.a.	Electricity
Powercor	PacifiCorp	Victoria	Nov-95	2,150	11.9x	n.a.	Electricity
Eastern Energy	Texas Utilies	Victoria	Nov-95	2,080	12.0x	n.a.	Electricity
Solaris	AGL/GPU	Victoria	Oct-95	950	12.7x	n.a.	Electricity
United Energy	Utilicorp/AMP/Axiom	Victoria	Aug-95	1,550	9.2x	n.a.	Electricity
<b>Average</b>					<b>12.0x</b>	<b>1.57x</b>	
<b>Median</b>					<b>12.0x</b>	<b>1.47x</b>	

Source: Rothschild, Australia

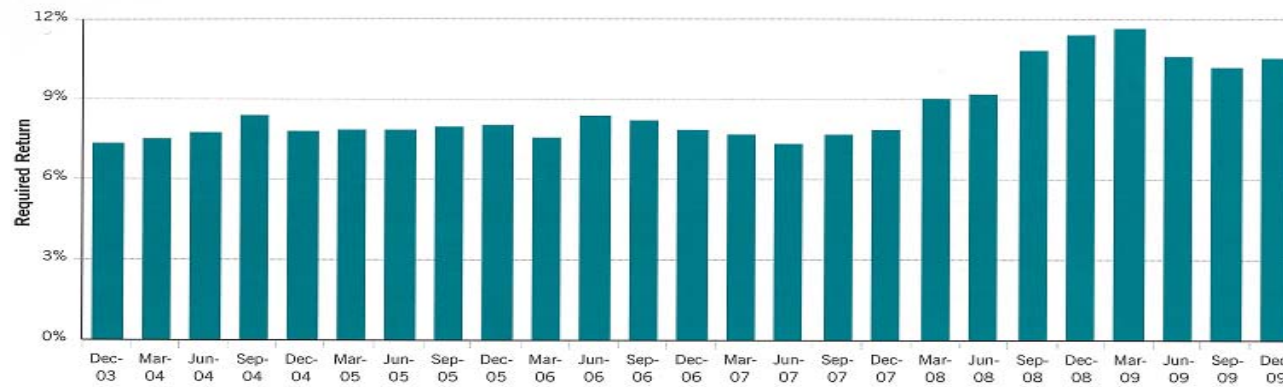
#### A4 – EBITDA growth rates of Australasian regulated companies

Set out below are the forecast growth rates of the Australian regulated listed companies, Vector and Transpower (from its base case financial model).

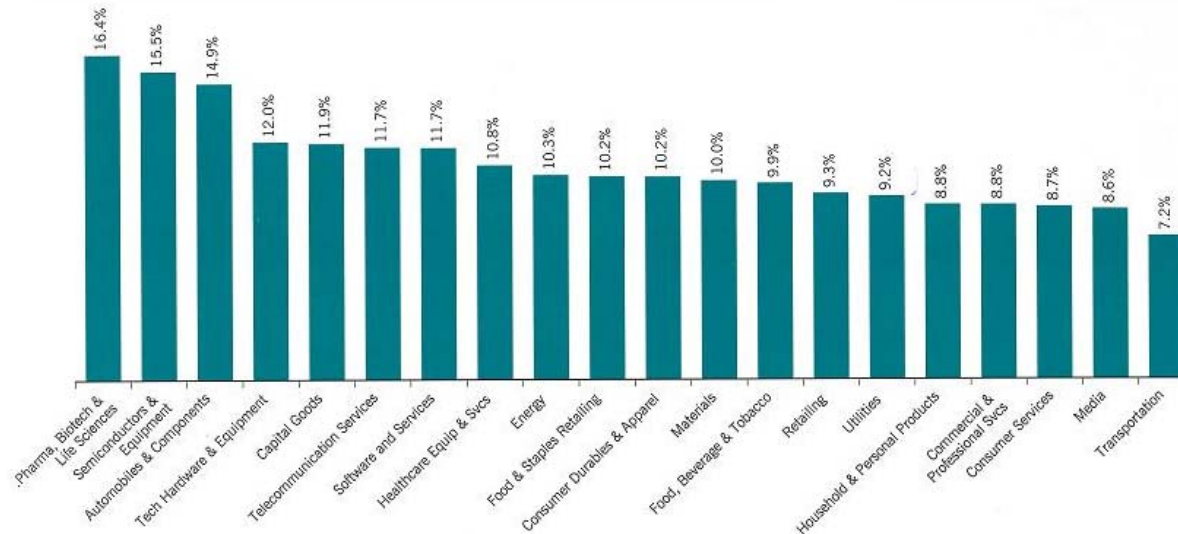
EBITDA Growth	2009A	2010E	2011E	2012E
SP AusNet	14.5%	9.7%	8.2%	8.8%
APA Group	6.8%	2.4%	3.0%	3.6%
DUET Group	18.5%	-1.4%	11.0%	6.2%
Spark Infrastructure Group	15.4%	1.5%	6.6%	6.9%
Envestra	17.8%	-3.2%	4.2%	4.3%
<b>Australian Regulated Average (per Merrill Lynch estimate)</b>	<b>14.6%</b>	<b>1.8%</b>	<b>6.6%</b>	<b>6.0%</b>
<b>Vector (per Analyst Consensus Estimates)</b>	<b>6.1%</b>	<b>-0.8%</b>	<b>4.9%</b>	<b>-1.1%</b>
<b>Transpower (per Base Case Business Plan)</b>	<b>15.0%</b>	<b>6.3%</b>	<b>2.4%</b>	<b>19.5%</b>

## A5 – USA required rates of return by industry and over time

### Required Return, 1000 Largest Non-Financial Companies



### Industry Required Return – February 2010



Source: Journal of Applied Corporate Finance, Volume 22 | Number 2 | Spring 2010

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