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Murray Reynolds  
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Economic Services Branch  
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### **Cost of Capital Guidelines - Post-Workshop Submissions**

1. Please see attached as appendices to this letter, Telecom's post-workshop submission and submissions provided by PricewaterhouseCoopers, and Professor Graeme Guthrie on the Cost Of Capital Guidelines, ("**Guidelines**").
  - (a) Telecom's submission deals with primarily with issues 3 and 11 relating to the expectation of a normal return, the risk free rate, and the term of the regulatory period in the context of tilted annuities common in the regulation of telecommunications.
  - (b) PricewaterhouseCooper's submission addresses all other matters discussed and identified in the Commission's invitation to parties dated 18 November 2009 other than issues 4 and 5 related to real options.
  - (c) Professor Guthrie's submission deals with issues 4 and 5 on real options and related issues.

### **Cost of Capital Framework**

2. Issues 1 and 2 addressed by Commissioner Mazzoleni in respect of the cost of capital framework are in part covered in Telecom's earlier submissions, and additionally in section 2 of the Pricewaterhouse-Coopers submission attached.
3. As discussed during the workshop, the fundamental objective of setting the cost of capital is to estimate the market return for making an investment. In order to achieve this objective, the Guidelines need to be both sufficiently flexible to be applicable and relevant to a broad range of regulated businesses, while still being sufficiently prescriptive to provide transparency and certainty with respect to how the Commission would consider cost of capital issues given the particular circumstances. In either case the Guidelines still must effectively provide the most accurate estimate of cost of capital for a reasonable expectation of the range of regulatory situations.

4. In order to achieve the required combination of flexibility and prescription while effectively providing the most accurate estimates for specific regulatory situations Telecom submits that the Guidelines should:
  - clearly set out detailed formulations of the Brennan-Lally CAPM model and the classic CAPM identifying in each case how component elements should be tested, how deficiencies in the CAPM family of models might be compensated for, how the WACC range should be estimated, and how a point within the range should be selected, without making a finding that any one approach should be preferred over another;
  - acknowledge the potential for use of the Fama-French, and DCF- based models in appropriate circumstances and where relevant data is available to enable their application, but without making a finding that they should not be used in practice;
  - recognise the application of the real-options approach in the regulatory setting, and set out formulations of how that approach could be implemented in practice;
  - describe how the Commission might assess one methodology against another, should there be competing methodologies or use one methodology as a cross-check against another;
  - clarify the evidence that would be required to satisfy the Commission regarding each methodology; and
  - set out universal points on process (e.g. that the Commission will assess a new regulated service against the full range of regulatory options in the first instance, and develop short form ways of rolling over assessments for future occasions).
5. The Guidelines have broader application than the industries to which the Input Methodologies, (**IM**) apply. Without reiterating in detail the matters covered in Telecom's submission and cross-submission, the most important issue is that the Guidelines should sit above, and be broader than the IM, allowing the use of a broader range of approaches and models. In particular, the well known deficiencies of the CAPM methodology, (irrespective of the tax specification adopted), should be acknowledged, and addressed. PricewaterhouseCoopers submit more specifically on means by which this might be achieved.

### **Expectation of Normal Return**

6. Issue 3, addressed by Commissioner Begg deals with the regulatory objective of based around the principle that  $NPV=0$ . PricewaterhouseCoopers at section 2 of their submission agree that  $NPV =0$  is appropriate as a long term regulatory objective on the basis that allowance is made for sharing of efficiency gains and that asymmetric risk and real options are correctly taken into account. Aspects of this issue are also addressed in Telecom's submission.
7. Issues 4 and 5 addressed by Commissioner Duignan in relation to real options are further discussed in Professor Graeme Guthrie's submission "*Further Notes On Incorporating Real Options In Regulatory Prices*". Professor Guthrie addresses three points:
  - how to interpret the evidence that firms typically choose investment hurdle rated in excess of their estimated cost of capital;
  - how to replicate the effect of real options on market values and rates of return in respect of regulated firms; and

- how to implement the multiplier approach to incorporating real options in regulated prices.
8. In relation to the first point, Commissioner Duignan suggested that project manager optimism was a principal reason for setting hurdle rates above the estimated cost of capital. Professor Guthrie, at section 2 of his submission reviews empirical evidence which shows that a firm's choice of an investment hurdle rate is motivated by a wider range of factors.
  9. Commissioners Duignan and Begg raised questions around the application of the real options model in an unregulated market in comparison to a regulated market. Paragraph 3 of Professor Guthrie's paper discusses in greater detail the value associated with growth options, how that value is allocated to investors in unregulated firms, and how this allocation might be replicated for regulated firms using the real option multiplier approach discussed in his earlier submission and taking into account the opening and closing values of the regulatory asset base to account for changes in the value of real options.
  10. Paragraph 4 of Professor Guthrie's paper sets out three alternative approaches to estimating real option multipliers using well known real option models which might reasonably be regarded as describing a workably competitive market. This ensures that the option values calculated do not take account of the option values associated with the market power of the regulated firm.
  11. As an aside, we note that the Commission's role for the purposes of Part 4 of the Commerce Act is to set regulatory frameworks that are "...consistent with outcomes produced in competitive markets..." (see section 52A) and that section 3A of the Commerce Act defines "competition" to mean "workable or effective competition". Therefore there may be a legal obligation for the regulatory settings to reflect workable competition as opposed to perfect competition. This is relevant for the purposes Professor Guthrie's paper.
  12. These comments address the various concerns expressed by Commissioner Duignan in the discussion set out in the transcript on page 65, line 19 – page 69, line 5, and on page 87, lines 23-33 – page 88, lines 1-7.

### **Global Financial Crisis**

13. At paragraph 4 of PricewaterhouseCoopers' submission are a number of further comments on the impact of the Global Financial Crisis on the cost of capital, making the point particularly that changes in debt margins, volatility, refinancing risk, and the equity market risk premium should be taken into account by the Commission. Telecom has previously submitted on these issues, most recently in relation to the cost of capital calculations for the TSO for the 2006/2007 and 2007/2008 years and refers the Commission to the relevant sections of those and earlier submissions.

### **Term of the Risk-Free Rate**

14. The Commission has sought comment on the appropriate term of the risk free rate. This issue was canvassed extensively during the workshop. Telecom's submission addresses specific issues related to tilted annuities which typically arise in the context of telecommunications regulation and responds to matters raised at the workshop. In particular the submission expands on the comments made on page 123 of the Transcript in lines 18-33 and page 124 on lines 1-11 and addresses aspects of Dr Lally's response on the issue of the term of the risk free rate and the regulatory period set out from page 134 line 33 to page 136 line 16 inclusive, (and on page 136 lines 2-8 specifically)

15. Commissioner Mazzoleni also specifically addressed the use of interest rate swaps in issue 11. PricewaterhouseCoopers comment in paragraph 6 of their submission that it prefers the use of longer term risk free rates in estimating the cost of debt in the WACC, consistent with market convention and the investment practice of firms. On the question of the use of swap rates rather than government bond rates as the risk free rate, PricewaterhouseCoopers submits that the Commission should keep a watching brief on the issue, but prefers the continued use of government bond yields. Telecom has previously submitted on these issues in relation to the cost of capital calculations for the TSO for the 2006/2007 and 2007/2008 years and refers the Commission to the relevant sections of those submissions.
16. There is no confidential material in this cover letter or the attached submissions.
17. Telecom wishes to thank the Commission for the opportunity to participate further in this process. Please feel free to contact us to discuss any aspect of our submission.

Yours Sincerely

A handwritten signature in blue ink, appearing to read 'Antony Srzich', with a stylized flourish at the end.

Antony Srzich