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19 August 2011

Anthony Merritt
Manager Electricity & Gas Regulation Branch
Commerce Commission
P.O. Box 2351
Wellington

Dear Anthony

Technical Guidance Request

I acknowledge the Commission's recent release of a revised Price Reset Model in support of the draft decisions on EDB starting price adjustments. Several issues identified in the original version of this model have been addressed in the revised version.¹

Another issue with the original model that we are concerned about, and which has not been addressed in the revised model, is the approach to determining the total value of projected costs. This is determined in cell C101 in the respective model sheets for each EDB.

From the feedback I have received (for example in respect of the interactions during the modelling workshop²) I am concerned that the Commission appears to have a closed mind on this issue. The Commission, it seems, is confident in its own algebraic proof and is dismissive of alternative perspectives. I trust that this is not the case and is a misapprehension on the part of those I have been talking with.

The algebraic proof the Commission seems to be relying on reportedly runs to 4 pages. While in some circumstances such extensive reliance on algebra may be unavoidable, I am generally sceptical of extensive algebraic proofs. I would also note that one advantage of spreadsheets is that, with the use of a few extra cells, they enable complex formulae to be reduced to several simpler steps allowing stakeholders (who, like me, may not have a PhD in mathematics) to follow what is going on.

¹ Vector applauds the Commission's acknowledgement and early correction of these errors.

² Vector is supportive of the Commission holding such workshops for relevant stakeholders.

In the section below, I provide Vector’s view of the problem with cell C101. I ask that the Commission consider these issues and the approach adopted by Vector and provide a response via the Commission’s technical guidance facility. I would appreciate this response by Tuesday next week as clearly the content of our submission will be impacted by the Commission’s conclusion.

The comments below are provided without prejudice to Vector’s view on the appropriateness or otherwise of the Commission’s proposed approach to the assumed timing of cash flows during the year (i.e. mid-year or end of year).

Issue: determination of the present value of total costs (including the allowance for tax)

Cell C101 of the Commission’s starting price adjustment model (e.g. per tab EDB 25 which relates to Vector) determines the present value of total costs which then becomes the target present value for revenue and from which a starting price (/revenue) is determined by the Commission.

The purpose of the formula in cell C101 is two-fold. First, it serves to gross up total costs excluding tax to total costs including tax (including allowing for the iterative approach necessary when determining such a gross-up). Secondly, it applies the Commission’s preferred treatment of the tax uplift in terms of the timing of the tax cash flows.

This cell does not achieve its objective. While the calculation to gross-up total (non-tax) costs for tax is an acceptable calculation in some circumstances, it is inappropriate here because it is being applied to costs which are subject to different present value treatments. Some costs are present valued to mid year and some to end of year. Tax, in any single year, is not determined this way – thus the tax determined under this approach is understated. Furthermore, the formula in cell C101 also applies the adjustment in the timing of the tax allowance to the end of the year to the total costs, not just to the tax allowance. The Commission’s approach in the preceding cells in column C has already applied the adjustments to establish all other costs as mid-year or end of year in accordance with the Commission’s desired approach.

These problems become apparent if a tax proof is applied to the numbers as determined by the Commission (taking Vector’s values for the purpose of the example).

A	Total non-tax costs (mixed PV)	\$1,015,194
B	Revenues	\$1,121,973
C	Implied tax cost allowance (B-A)	\$106,779

Tax Proof:

D	Revenues	\$1,121,973
E	Tax deductions	\$694,438
F	Taxable costs (D-E)	\$427,535
G	Tax (F x 28%)	\$119,710
H	Difference from implied tax cost allowance (G-C)	\$12,931

An alternative approach is to address the cash flows on an annual basis with a separate calculation of the tax allowance each year. This replicates the actual circumstances in which tax would be calculated, i.e. an annual calculation using dollars within each year having equal value. The explicit cash flows can then be converted to present values in accordance with the Commission's desired approach.

This would look as follows:

	Source data	Present value	2012/13	2013/14	2014/15
I	Total non-tax costs (excl opex)		254,574	268,003	281,517
J	Opex		119,974	127,086	134,231
K	Tax deductions		259,016	273,958	289,214
	Calculations				
L	Total non-tax costs (I+J)		374,548	395,089	415,748
M	Total costs (grossed up for tax: $(L-K*Tax)/(1-Tax)$)		419,477	442,196	464,956
N	Tax allowance (M-L)		44,929	47,106	49,208
O	Mid year cash flows (Opex: J)	335,853	119,974	127,086	134,231
P	End of year cash flows (i.e. including tax allowance) (M-J)	798,703	299,504	315,110	330,725
Q	Total of PVs (O+P)	1,134,556			

Tax Proof:

R	Total costs (grossed up for tax (M))		419,477	442,196	464,956
S	Tax deductions (K)		259,016	273,958	289,214
T	Taxable costs		160,462	168,237	175,743
U	Tax (T x 28%)		44,929	47,106	49,208
V	Variance from Tax allowance (N-U)		nil	nil	nil

We believe that this approach is conceptually more robust and, accordingly, is materially better than the approach adopted by the Commission in Cell C101. As demonstrated above, the determination of the tax allowance by using costs that

are given present values at different times in the year is inappropriate. As a consequence, the Commission's formula in Cell C101, which seeks to calculate the tax allowance and to adjust for the timing of the tax cash flows simultaneously, is flawed.

I look forward to your response. If you would like to discuss this matter further, please contact me on 09 978 8340 or by email to allan.carvell@vector.co.nz.

Yours sincerely

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

Allan Carvell

Group General Manager Regulation and Pricing

cc: Matthew Lewer