Appendix N

Estimation of ElectraNet's Equity Raising Transaction Cost Allowance

The Allen Consulting Group

MEMORANDUM

To: Mr. Rainer Korte, Regulation Manager, ElectraNet

From: The Allen Consulting Group

Date: 29 May, 2007

Re: Estimation of ElectraNet's equity raising transaction cost allowance

Executive Summary

ElectraNet has engaged the Allen Consulting Group (ACG) to provide a report that estimates:

- the quantum of equity funds that a transmission business in the position of ElectraNet, but with benchmark financing arrangements, would need to raise to finance its capital expenditure (capex) program in the next regulatory period; and
- the transaction costs that would be incurred to raise those funds.

The 'Pecking Order Theory' dictates that the cheapest forms of finance would be exhausted first, which means that internal equity funds (i.e. retained earnings) would be used in preference to raising equity funds from outside sources. ACG's modelling indicates that a firm with benchmark financing arrangements and with ElectraNet's capital expenditure program would exhaust internal equity funds over the next regulatory period. Based on information supplied to us by ElectraNet, we estimate that the benchmark firm with ElectraNet's financial position would therefore need to raise an annual amount that ranges between $35 million and $72.5 million annually from external sources, totalling $216.5 million over the next regulatory period.[1]

Regarding the transactions costs that would be incurred to raise these equity funds from external sources, we have assumed that these funds would be raised through a 'Seasoned Equity Offering' (SEO), which in turn assumes that the firm is already listed on a stock exchange and hence is already well known by the market. Assuming an SEO transaction cost of 3% consistent with our previous work on this matter, we estimate that $6.5 million would be incurred to raise the required equity funds. There are at least two mechanisms through which an allowance for this cost could be provided – either to treat the transaction cost as part of the capital expenditure and add to the regulatory asset base, or to convert the transaction cost into an annuity-equivalent stream and to include it in operating expenses. These two

[1] We have assumed that debt levels remain constant at 60% of the regulatory asset value, consistent with the standard assumption of Australian energy regulators. While it may be possible for a transmission business to raise additional debt (and hence maintain a higher level of gearing for a period) to address short term increase in capital expenditure requirements, such an assumption would have implications for the debt margin, equity beta and also justify an increase in the transaction cost allowance that is provided in respect of debt finance.

mechanisms should deliver an allowance with an identical value, provided that the calculations are undertaken consistently.

1. The Brief

ElectraNet engaged the Allen Consulting Group (ACG) to provide an estimate of the allowance for equity raising transaction costs that can be justified as a component of its capital expenditure (capex) program in the next regulatory period. It was envisaged that this would require modelling of the potential need for the benchmarked ElectraNet entity to undertake notional equity issues (and therefore require an allowance for equity transaction costs) as a result of its significant capex program relative to its current RAB.

2. Background

ElectraNet is preparing to submit a revenue proposal to the Australian Energy Regulator (AER) for the five-year regulatory period 1 July 2008 to 30 June 2013. As part of this process, and taking account of future demand conditions, expected efficient operating costs and other economic conditions, ElectraNet has assessed its capital expenditure requirements over that period. Taking account of its capital base and other costs, and having assessed its own cost of capital, ElectraNet has derived an unsmoothed revenue requirement for the coming five-year regulatory period. ACG has applied the cost and revenue estimates provided to it by ElectraNet to undertake the current assignment.

3. Equity transaction cost allowance

In our 2004 study of debt and equity transaction costs undertaken for the ACCC, ACG recommended that for ongoing regulated businesses, 'whether an allowance should be made for transaction costs associated with subsequent equity raisings turns on whether there is a requirement for funding that exceeds the amounts provided by retained earnings combined with debt issues'.[3] That is, we believed that there may be a legitimate case for an allowance for equity raising transaction costs in the future, with this matter dependent upon an empirical assessment of the expected future cash flows of the entity (and, in particular, its expected capital expenditure requirements). We concluded that:[5]

> Accordingly, external injections of equity for subsequent capital expenditure should only be assumed where a case can be made that, given the assumed gearing level (i.e. a stock of debt equal to say, 60% of RAV) and assumptions about other financing decisions (e.g. dividend payout ratio) that are consistent with the regulatory benchmarks, there would be insufficient retained cash flow to finance the equity share of the value of capital expenditure. As cash flow is expected to fluctuate from year to

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[3] ACG (2004), *Debt and Equity Raising Transaction Costs*, report to the ACCC, December, p. 64.

[5] ACG (2004), p. xiii.

> year, such an analysis should be undertaken over a reasonable period of time (such as looking at the average over the regulatory period).

We made clear our expectation that in most situations it would be difficult to demonstrate that new equity would have to be raised in order to finance additional capital expenditure. This was because for most infrastructure businesses, the capital expenditure requirement is around 3% to 5% of the existing RAB per annum. This level of growth can almost certainly be accommodated through a combination of internal equity sources (retained earnings) and new benchmark debt issues (i.e. from the assumption that 60% of capital expenditure would be financed through debt).

With respect to the transaction costs associated with raising equity from external sources, we concluded that it was appropriate to assume that the funds were raised through 'seasoned equity offerings' (SEO), that is, a call for equity funds by an existing entity that is listed on a stock exchange and hence already well known by the market. We examined transaction costs incurred by a sample of 30 Australian SEOs over the period between 1998 and 2004, and found that both the average and median total costs as a percentage of total proceeds were 3%. There was some evidence that the figure of 3% might be slightly higher than would be experienced by a benchmark regulated utility, as three companies raising money to retire debt rather than make acquisitions had lower issue costs. Nevertheless, ACG's conclusion was:[6]

> Thus, whilst ACG concludes that an SEO transaction cost benchmark of 3% is appropriate for regulated infrastructure companies, this should be viewed as an upper limit of the likely cost of an SEO associated with capital expenditure within existing regulated activities.

4. The 'Pecking Order Theory'

The 'Pecking Order Theory' of capital structure has become well known in the finance literature since it was developed by Myers and Majluf almost twenty five years ago.[7] The theory proposes that firms adopt a hierarchical approach to their financial preferences, with internal funds being granted preference over external funding. Thus, if a firm requires funding it will first rely on retained cash flow, and only if this is exhausted will it resort to debt funding. Under the 'Pecking Order Theory' the firm would only approach the market for more equity funding if the issue of further debt would result in the company adopting a sub-optimal capital structure. The theory has been tested empirically in many studies. A recent study of business practice concluded:[8]

> Firms prefer using internal financing as opposed to using external financing. Furthermore, when external funds are required, a firm prefers debt financing to equity financing.

On the basis of the 'Pecking Order Theory', external injections of equity for subsequent capital expenditure should only be assumed where a case is made that,

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6 ACG (2004), p.65.

7 Myers, S.C. and N.S. Majluf (1984), "Corporate financing and investment decisions when firms have information that investors do not have", *Journal of Financial Economics*, Vol. 13, pp.187-221.

8 Cai, Francis and Arvin Ghosh, (2003), "Tests of Capital Structure Theory: A Binomial Approach", *Journal of Business & Economic Studies*, Vol.9 No. 2, p. 1.

given the assumed gearing level (i.e. a stock of debt equal to say, 60% of the RAB) and assumptions about other financing decisions (e.g. dividend payout ratio) that are consistent with the regulatory benchmarks, there would be insufficient retained cash flow to finance the equity share of the value of capital expenditure.

5. Modelling ElectraNet's benchmark equity raising costs

Modelling methodology and assumptions

ACG's modelling has taken as given the RAB, cost and revenue that ElectraNet has provided. ElectraNet's asset and capex program assumptions are set out in Table 1 below. Capex as a percentage of opening RAB is expected to range from 16.6% in 2008/09 to 3.9% in 2012/13, and there is a significant decline in the forecast capex spend towards the end of the period.

TABLE 1: ELECTRANET: REGULATORY ASSET BASE AND CAPITAL EXPENDITURE, 2007/08 TO 2011/12

	2008/09	2009/10	2010/11	2011/12	2012/13
Opening RAB	1,276.5	1,468.0	1,687.9	1,859.7	1,988.6
Closing RAB	1,468.0	1,687.9	1,859.7	1,988.6	2,057.5
Capex	**211.9**	**237.7**	**184.7**	**149.7**	**78.1**
Capex/Opening RAB	16.6%	16.2%	10.9%	8.0%	3.9%

Source: ElectraNet.

Specific assumptions that were applied in ACG's modelling are as follows:

- Debt gearing of 60% of the RAB in line with the AER's convention for regulated electricity transmission businesses;
- Tax paid is twice ElectaNet's proposed Tax Allowance', based on a gamma of 50%;
- The interest rate on debt is 6.85% based on ElectraNet's assumption;

- Dividends are paid to maintain a constant (benchmark) dividend yield, and more specifically
  - the payment of interim dividends is based on the assumed dividend yield and the equity share of the average (mid-point) RAB of the period;
  - the payment of final dividends is based on the assumed dividend yield and the equity share of the closing RAB of the period;
- The transaction cost associated with an equity issue to the market is assumed to be 3%, as recommended to the ACCC in our 2004 report; and
- Revenue, other expenses and the asset base have been provided by ElectraNet based on its revenue proposal to the AER.

In modelling cash flows according to the 'Pecking Order' theory it is necessary to either hold the payout (or retention) ratio constant or hold the dividend yield constant. ACG considers that it is more appropriate to hold the dividend yield constant, as there is more objective evidence on this variable. Thus, a key assumption in the modelling is the benchmark yield that should be applied. Accordingly, we have assumed that the benchmark entity will need to maintain a benchmark dividend yield of 8%. This benchmark has been calculated with reference to UBS regulated utility performance statistics shown in Table 2 below.

TABLE 2: AUSTRALIAN REGULATED UTILITIES – NET DIVIDEND YIELD AS AT 30 JUNE, 2006

Alinta Infrastructure Holdings	8.7%
Australian Pipeline Trust	5.6%
Babcock & Brown Infrastructure	9.1%
Challenger Infrastructure Fund	8.8%
DUET	8.8%
Envestra	7.8%
GasNet	7.0%
Hasting Diversified Utilities Trust	8.4%
SP AusNet	8.6%
Average	**8.1%**

Source: UBS Investment Research, Australian Infrastructure & Utilities Index, 6 October, 2006

The overall methodology applied in the modelling was to:

1. Determine the dividend that would need to be paid by the benchmark entity to maintain the dividend yield of 8%;

2. Subtract the required dividend from the internally generated cash flow to determine forecast retained cash flow;

3. Apply the retained cash flow calculated above to fund the equity component of new capex before undertaking a notional equity raising to fund the remainder of the equity component;

4. In keeping with the 'Pecking Order Theory' carry over any unutilised retained earnings to the following year and apply it to raise the required equity component of the capex before necessitating an equity raising.

5. Calculate the total equity raising allowance required in each year by multiplying the required notional equity raising amount by the assumed cost of 3% of proceeds.

Modelling the benchmark Profit and Loss as a cross-check

Table 3 displays the results of the benchmark modelling of ElectraNet's forecast Profit & Loss statements for the next regulatory period. This exercise was performed as a cross-check in order to see what level of pay-out ratios would be implied by the assumption of a benchmark dividend yield of 8%. The Profit and Loss modelling is not critical to the demonstration of an equity raising requirement.

Revenue, operating cost (opex), depreciation and interest assumptions are as discussed above. NPAT rises from $51.9 million to $78.7 million, and the dividend rises with it. The implied payout ratio falls almost continuously from a high of 91% in 2009/10 to a range of 82% to 83% by the end of the period. The effective tax rate implied in the model averages at 22.9% of Profit Before Tax.

TABLE 3: ELECTRANET BENCHMARK PROFIT & LOSS, 2007/08 TO 2011/12 $ MILLION

	2008/09	2009/10	2010/11	2011/12	2012/13
Revenue	208.5	225.1	243.1	262.2	283.4
Less, Opex	61.4	65.2	70.3	76.2	81.6
Gross Margin	147.1	159.9	172.8	186.0	201.8
less, Depreciation	20.4	17.7	12.9	10.8	19.1
less, Interest	56.4	64.9	72.9	79.3	83.4
Profit Before Tax	70.3	77.3	87.0	95.9	99.3
Tax Expense/Payable	18.4	20.2	19	19	20.6
Net Profit After Tax	**51.9**	**57.1**	**68.0**	**76.9**	**78.7**
Dividend @ 8% yield	45.4	52.3	58.1	62.8	65.4
Payout Ratio	88%	91%	85%	82%	83%

Source: ElectraNet and ACG analysis

ACG believes that a payout ratio in the order of 80% to 90% or more must be assumed for a regulated benchmark entity. If the payout ratio were assumed to be any lower, it would imply lower dividend yields and lower annual equity raisings than the ones calculated below. However, in that case it would be difficult for the AER to propose that a gamma of 0.50 is appropriate to apply in the WACC as an input to the revenue formula.[12] Professors Neville Hathaway and Bob Officer, in one of the key studies that has estimated gamma empirically, have estimated that the 'theta' component of the gamma equation is around 0.50, but on average payouts have been around 70%. In that case, Hathaway and Officer have held that the average firm could experience a gamma of around 0.35 (i.e. payout ratio times theta). This, in turn, implies that a benchmark regulated business would need to have a payout ratio well in excess of 70% to justify a gamma of 0.50.

Modelling the benchmark Cash Flow

Table 4 displays ACG's estimates of the cash flows of the benchmark ElectraNet entity. The 'Internal Cash Flow' was calculated by subtracting the expected opex, regulatory interest and regulatory tax from the AER's revenue allowance, and is the cash flow that the benchmark entity could have available to pay dividends and retain the residual within the entity to potentially fund capex. Estimated dividends (on the basis of an 8% dividend yield assumption) were then subtracted from the available internal cash flow to estimate the 'Retained Cash Flow', which is a key input to the equity raising requirement calculations below. The level of retained cash flow was found to rise from a level of $26.9 million in 2008/09 to $32.5 million in 2012/13. A rise in the level of retained cash flow combined with a falling capex program raises an expectation that the equity raising requirement would fall over time.

TABLE 4: ELECTRANET BENCHMARK CASH FLOW, 2008/09 TO 2012/13 $ MILLION

	2008/09	2009/10	2010/11	2011/12	2012/13
Revenue allowance	208.5	225.1	243.1	262.2	283.4
less, Opex	61.4	65.2	70.3	76.2	81.6
less, Regulatory Interest	56.4	64.9	72.9	79.3	83.4
less, Regulatory Tax	18.4	20.2	19.0	19.0	20.6
Internal Cash Flow	72.3	74.8	80.9	87.7	97.8
less, Dividends	45.4	52.3	58.1	62.8	65.4
Retained Cash Flow	**26.9**	**22.6**	**22.8**	**24.9**	**32.5**

Source: Table 2 above, ElectraNet, and ACG analysis

[12] Neville Hathaway and Bob Officer (2004) *The value of imputation credits – update 2004*, Capital Research Pty Ltd. At an average payout ratio of 0.85, which applies in the equity transaction cost modelling undertaken by ACG, the implied gamma would be only 0.429 under the Hathaway and Officer findings.

Modelling Outcomes for benchmark equity raising requirements

Table 5 displays the outcome of the financial modelling employing the 'Pecking Order Theory' results in a requirement for the notional ElectraNet entity to make annual new equity issues of between $35 million and $72.5 million over the next five years. The total notional new equity raising required for the regulatory period from 2008/09 to 2012/13 is $216.5 million. As has been foreshadowed, the size of the new equity requirement falls as the percentage of capex to opening RAB falls.

TABLE 5: ELECTRANET BENCHMARK EQUITY FUNDING OF CAPEX, 2008/09 TO 2012/13 $ MILLION

	2008/09	2009/10	2010/11	2011/12	2012/13
Funding required for Capex	211.9	237.7	184.7	149.7	78.1
Less, Debt component	127.1	142.6	110.8	89.8	46.9
Equity requirement	**84.8**	**95.1**	**73.9**	**59.9**	**31.2**
Less, Retained Earnings	26.9	22.6	22.8	24.9	32.5
Equity Funding Required	**57.9**	**72.5**	**51.6**	**35.0**	**-1.2**

Source: ElectraNet and ACG modelling results

Assuming that SEO transaction costs are 3%, consistent with the recommendation of ACG's report to the ACCC, the amount of equity raising allowance required to fund the capital expenditure in the next regulatory period is $6.5 million (3% times the total equity raising requirement of $216.5 million for the period). The next issue to be considered by the AER is how to compensate ElectraNet for this notional benchmark expenditure requirement. There are two equivalent approaches that could be adopted:

1. In our report to the ACCC, our recommendation was as follows:[13]

   > If the regulator has determined that an allowance for the SEO cost of raising equity for ongoing capital expenditure should be provided for, we recommend that this amount be added to the RAV (i.e. included as part of the capital expenditure cost) and depreciated over the life of the relevant assets.

2. An alternative approach would be to convert the transaction cost of $6.5 million into an annuity-equivalent stream and to include it in operating expenses.

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[13] ACG (2004), p. xiii.