



TransGrid

**TransGrid Revenue Proposal
2018/19 – 2022/23**

Appendix L

Incenta:

TransGrid's Debt Raising Costs

Debt Raising Cost – TransGrid's 2018/19 to 2022/23 Revenue Determination

Report for TransGrid

January, 2017

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1. Executive Summary

Background and Terms of Reference

TransGrid is currently preparing its revenue reset proposal for the 2018/19-2022/23 revenue reset, and debt raising cost is one of the components to operating expenditure in the post-tax revenue model (PTRM). TransGrid engaged Incenta Economic Consulting (Incenta) to provide expert advice on the most appropriate approach that should be proposed in the 2018/19-2022/23 revenue reset, to provide the rationale for the approach, a response to the Australian Energy Regulator's (AER) partial rejection of TransGrid's previous proposal on debt raising costs,¹ and to provide a calculation of the current benchmark debt raising cost for a benchmark firm with TransGrid's characteristics.

Rationale for the most appropriate approach to benchmark debt raising costs

Debt raising costs are direct costs that are incurred by a benchmark energy transmission or distribution business in the course of raising and / or refinancing its benchmark debt capital (i.e. 60 per cent of its regulated asset base (RAB)). The AER's practice has been to include an allowance for these costs as operating expenditure, and the National Electricity Rules (NER, 6A.6.6(a)) require that a regulated electricity transmission business 'must include the total forecast operating expenditure for the relevant regulatory control period which the Transmission Network Service Provider considers is required in order to achieve each of the following [operating expenditure objectives]'. According to the NER, benchmark costs are 'costs that a prudent operator would require to achieve the operating objectives'.

In our 2014 report on debt raising costs, we identified three sources of such prudent costs:²

Debt raising transaction costs

When a Transmission Network Service Provider (TNSP) issues new debt it incurs a series of transaction-related costs. These costs include the costs of engaging legal counsel, credit rating agency fees, registration fees and investment bank out-of-pocket fees. As the benchmark cost of debt is based upon observed trading of debt instruments in secondary markets, these costs are not factored into the cost of debt estimate. Debt raising transaction costs and their allowance as part of the revenue requirement have been recognised by Australian regulators since the early 2000s,³ and is consistent with the requirements of the NER.

Liquidity costs incurred due to Standard & Poor's liquidity requirement formula

The second cost associated with the issue of debt is the cost of compliance with Standard & Poor's liquidity requirement. It is an imperative of capital intensive utilities to at all times maintain an investment grade credit rating. Unless Standard & Poor's assesses the liquidity position of the business as at least 'adequate', the business would not be able to maintain an investment grade credit

¹ AER (April, 2015), *FINAL DECISION, TransGrid Transmission determination 2015-16 to 2017-18, Attachment 3 – Rate of return*, pp. 3-547 to 3-550.

² Incenta (May, 2014), *Debt raising transaction costs – TransGrid*. pp.1-2.

³ See Essential Services Commission (2002), *Final Decision: review of gas access arrangements*.

rating. The debt risk premium the AER calculates assumes that an investment grade credit rating is achievable.

More specifically, Standard & Poor's requires that a utility maintain a ratio of sources to uses of cash funds of 1.1 times. If this requirement is not met naturally from cash flows, the business will need to have in place (and pay for) arrangements to provide additional liquidity, the least-cost and most commonly used method of which is to secure committed but undrawn lines of bank debt. The amount and timing of these undrawn bank lines can be forecast from the revenue and cost items embedded with the PTRM, and the cost of securing the necessary committed but undrawn bank lines can then be forecast based on the prevailing cost of debt and banking practices.

The requirement for utility firms to meet a formal liquidity requirement has arisen only fairly recently. It was only from 2010 that Standard & Poor's set out a mechanistic requirement in relation to liquidity, which arose out of Standard & Poor's concern that liquidity had not been given sufficient prominence in its previous analysis. As a consequence, from 2010 the benchmark liquidity cost could be estimated with a reasonable degree of accuracy owing to the sources/uses formula that Standard & Poor's applies.⁴ While we expect that businesses were making some arrangements in relation to liquidity prior to Standard & Poor's formal requirements, these requirements made it possible to benchmark the associated costs with reasonable accuracy. The Standard & Poor's liquidity requirements can now be considered the minimum that a prudent utility would wish to observe.

Costs incurred due to Standard & Poor's requirement to finance three months ahead

The third direct cost associated with the issue of debt is the cost of compliance with Standard & Poor's requirement to secure the refinancing of maturing bonds three months ahead of the maturity date. In Australia Standard & Poor's changed its approach to debt refinancing following the difficulties faced by the Melbourne-based Centro Properties Group in March 2008. In its new policy Standard & Poor's declared that it would want to see 'the company has a credible strategy for repaying or refinancing debt maturing up to 18 months ahead', and introduced a requirement that 'no less than three months ahead of the maturity, the refinancing would be essentially completed, committed or underwritten.'⁵ With respect to the cost of three month ahead financing, we agree with the approach that was suggested by PwC (2013), where the cost was estimated by taking the three month interest cost borne on the refinanced bond(s) and subtracting the interest that can be earned on a BBB rated bond with a three month term.⁶ To this net cost, we add the establishment fee and other costs associated with the issue of the BBB rated bond. Again, this is a cost that would have been incurred at some level prior to the Standard & Poor's formal requirement, but the formalisation has made these costs transparent and measurable in an objective manner.

Response to AER's decision to disallow TransGrid's 2014/15 to 17/18 debt raising cost proposal

We have also been tasked by TransGrid to respond to the AER's decision to partially disallow TransGrid's 2014/15 to 2017/18 debt raising cost proposal.⁷ While accepting the debt raising

⁴ Standard & Poor's (2 July, 2010), *Methodology And Assumptions: Standard & Poor's Standardizes Liquidity Descriptors For Global Corporate Issuers*, Global Credit Portal, RatingsDirect.

⁵ Standard & Poor's (22 April, 2008), *Refinancing And Liquidity Risks Remain, But Australia's Rated Corporates Are Set To Clear The Debt Logjam*, Global Credit Portal

⁶ PwC (June, 2013), *Energy Networks Association: Debt financing costs*.

⁷ AER (April, 2015), pp. 3-547 to 3-550.

transaction cost component, it disallowed the liquidity and three month ahead financing components of TransGrid's proposal.

While the AER expressed its reasons for disagreeing with the disallowed elements in a number of alternative ways, the core of its argument boiled down to the propositions that:

- there are other elements of the calculation of the building block revenue requirement that provide an offsetting bias – the specific argument of the AER is that its calculation of the building block revenue requirement assumes that revenue is received later within any year than is likely to be the case in practice (referred to as “timing conservatism” below), which in turn leads to the building block revenue requirement being overstated
- the overstatement of the building block revenue requirement from the timing conservatism is larger than the quantum of the disallowed categories of debt raising costs
- there is a logical “interrelationship” between the overstatement of the building block revenue requirement arising from the timing conservatism and the disallowed debt raising costs, and
- the AER is allowed – and indeed, compelled – to take account of such “interrelated components” when considering a regulatory proposal, so that the AER is required to deny the proposed recovery of liquidity costs and the cost of securing an early refinancing of debt.

The AER's reasons in relation to TransGrid's last revenue proposal did not conclude that the denied allowances were not costs that a prudent and efficient operator would incur.

In contrast to the AER's position, there is no logical interrelationship between the disallowed debt raising costs and any timing conservatism that may exist.⁸ The AER's argument in relation to timing conservatism relates to how accurately the algorithms in the PTRM represents the true timing of cash flows to a regulated business. In contrast, the disallowed items are two cash expenses that a prudent and efficient firm must bear in order to raise debt. The existence of the timing conservatism does not affect whether a prudent and efficient firm needs to meet the liquidity requirement and to refinance its debt early and, likewise, the requirement to meet these expenses does not affect the question of whether there is timing conservatism in the PTRM algorithms.

⁸ The AER also pointed out that one of the authors to the previous Incenta report (who is also an author of the current report) had advised the ACCC in relation to whether a working capital allowance should be provided in 2002 (the advice being “no”), and that there was an inconsistency between that view and our advice to TransGrid. We reject the suggestion of inconsistency. Working capital is a device for fine tuning the representation of the within-year timing of cash flow in a building block revenue requirement calculation. It follows that, when considering whether a working capital allowance is appropriate, it must first be asked how accurately the within-year timing of cash flow is dealt with in the building block revenue requirement calculation. The 2002 report observed that the standard building block calculations already contained a conservative representation of the within-year timing of cash flow and that adding a working capital allowance would result in an even less accurate representation of this timing. It therefore advised against providing a working capital allowance. Hence, there was a logical interrelationship between the provision of a working capital allowance and the accuracy of the building block revenue requirement calculations. The same logical interrelationship does not exist between the cash-costs a firm would incur to access debt markets and the accuracy of the building block algorithms

Moreover, in contrast to the AER's line of argument, there is in fact a logical interrelationship between the debt risk premium that the AER provides and the costs that the AER has denied. The debt risk premium assumes that a firm has an investment grade credit rating and, as we discussed earlier, in order to achieve such a credit rating a firm would need to meet the requirements (and bear the associated costs) in relation to liquidity and the timing of debt refinancing. It follows that the requirement to consider and respect "interrelated components" should in fact compel the AER to provide (rather than to deny) the allowances for the costs in relation to liquidity and the timing of debt refinancing.

The AER's reasons on TransGrid's previous application also suggested a belief that the presence of timing conservatism in the PTRM algorithms is sufficient to deny an allowance for the costs of meeting liquidity requirements and to refinance debt early. That is, the AER also seems to suggest that there is no need for there to be any logical interrelationship between the items, but rather that perceived conservatism in one item of a building block calculation could be used to offset an otherwise appropriate allowance for an unrelated item.

Whether the AER is allowed under the National Electricity Rules to make offsets between unconnected items of a building block revenue requirement calculation is principally a legal question, and to that extent is beyond our expertise. We observe that our reading of the National Electricity Rules (as economists) is that the AER is required to make an appropriate decision on each of the items of the building block calculation (after considering logical interrelationships), which is consistent with our understanding of what is contemplated by a building block approach to setting revenue requirements. Moreover, if the AER is allowed to make offsets across unrelated areas of a building block calculation, it is not clear to us why the AER has singled out aspects of the cost of raising debt to be offset. These are simply cash costs that a prudent and efficient operator would need to bear, and are no different in this regard to other cash costs, such as maintenance expenses.

Lastly, as we noted in the discussion, the formal requirements on firms in relation to liquidity and timing of debt finance have arisen largely since the Global Financial Crisis (reflecting changes made to Standard & Poor's methodologies in 2010 and 2008, respectively). These are, therefore, new obligations (implying new costs) that have arisen since the PTRM algorithms were established. If – as would appear reasonable to assume – the AER considered the PTRM algorithms to provide an appropriate revenue requirement at the time it was developed, the revenue requirement would only remain appropriate over time if it was raised to reflect new cost items (just like it would only be appropriate if it was reduced to reflect reductions in cost). To be clear, providing an allowance for the costs of meeting liquidity and refinancing timing requirements would not amount to a reopening of the assumptions that were factored into the design of the PTRM.

TransGrid's benchmark debt raising costs

In summary, we estimate the benchmark direct levelised debt raising costs (expressed in terms of basis points per annum on regulatory debt) to be:⁹

⁹ Using a discount rate of 6.6 per cent, we calculated the NPV of debt raising costs over the regulatory period and divided by the NPV of the RAB values over the same period to obtain a levelised cost in basis points per annum.

- 8.8 basis points per annum for the costs of issuing the bonds in an assumed debt portfolio of \$3,843 million (i.e. RAB debt);
- 7.7 basis points per annum to establish and maintain bank facilities required to meet Standard & Poor's liquidity requirements condition for maintaining an investment grade credit rating; and
- 4.2 basis points per annum to compensate for the requirement (again as a condition of maintaining an investment grade credit rating) that Standard & Poor's requires businesses to re-finance their debt 3 months ahead of the re-financing date.

Summing these components we have estimated a total levelised cost of debt raising transaction costs of **20.7 basis points per annum** on the regulatory debt.¹⁰

¹⁰ Using a discount rate of 6.6 per cent, we calculated the NPV of these transaction costs over the regulatory period and divided by the NPV of the RAB values over the same period to obtain a levelised cost in basis points per annum.

2. Terms of reference and outline

2.1 Terms of Reference

TransGrid is the owner, operator and manager of the high voltage electricity network in New South Wales and the Australian Capital Territory and is regulated by the Australian Energy Regulator under the National Electricity Law (NEL) and the National Electricity Rules (NER). TransGrid is currently preparing its revenue reset proposal for the next regulatory period, and debt raising cost is one of the components to operating expenditure in the post-tax revenue model (PTRM). TransGrid engaged Incenta Economic Consulting (Incenta) to advise on the most appropriate approach that should be proposed in the 2018/19-2022/23 revenue reset and a calculation of the debt raising cost.

The specific tasks were to:

- Undertake a review of the most appropriate approach to benchmark debt raising cost;
- Provide a rationale to the approach;
- Respond to the issues raised in AER's decision to disallow TransGrid's 2014/15 – 17/18 proposal; and
- Calculate TransGrid's debt raising cost.

2.2 Outline of report

In responding to TransGrid's Terms of Reference, we have structured our report in two parts:

- In Chapter 3 we have set out the rationale for estimating the benchmark costs associated with debt raising and refinancing, and respond to the AER's reasons for disallowing TransGrid's previous submission regarding debt raising costs.
- In Chapter 4 we utilise the outputs of TransGrid's Post Tax Revenue Model (PTRM) to estimate the three identified sources of debt raising costs, and what the benchmark total levelised cost is estimated to be for a benchmark business with TransGrid's characteristics.

3. Benchmark debt raising costs

3.1 Introduction

In this chapter we set out the rationale for estimating the benchmark costs of debt raising and refinancing, and respond to the AER's reasons for rejecting TransGrid's previous submission regarding debt raising costs. Debt raising costs are direct costs that are incurred by a benchmark energy transmission or distribution business as a result of raising and / or refinancing its benchmark debt capital. (i.e. 60 per cent of its regulated asset base (RAB)). The National Electricity Rules (NER, 6A.6.6(a)) require that a regulated electricity transmission business:

... must include the total forecast operating expenditure for the relevant regulatory control period which the Transmission Network Service Provider considers is required to achieve each of the following [operating expenditure objectives]’.

According to the NER, benchmark costs are ‘costs that a prudent operator would require to achieve the operating objectives’. In our 2014 report on debt raising costs, we identified three sources of such prudent costs, and we consider them in turn.¹¹ Next, we consider and respond to the AER's rationale for disallowing liquidity costs and three month ahead financing costs as benchmark efficient costs.

3.2 Rationale for debt raising costs

3.2.1 Debt raising transaction costs

When a Transmission Network Service Provider (TNSP) issues new debt it incurs a series of direct costs. These costs can be termed debt raising transaction costs, and include such items as:

- Investment bank (underwriting) fees;¹²
- Costs of engaging legal counsel;
- Credit rating agency fees;
- Registration fees; and
- Investment bank out-of-pocket fees.

Such costs to a benchmark TNSP are not otherwise captured as part of the cost of debt estimate because this is based on observed yields in a secondary market, and therefore need to be estimated separately. A debt raising transaction cost allowance of 5 basis points was applied by the Essential Services Commission, Victoria (ESC) in 2002, however this was based on relatively casual observation, rather than a full analysis of the costs involved. In 2004 the Australian Competition and Consumer Commission (ACCC) engaged the Allen Consulting Group (ACG) to undertake a full analysis of debt raising transaction costs.¹³ ACG's report then became the basis of future reviews of

¹¹ Incenta (May, 2014), *Debt raising transaction costs – TransGrid*. pp.1-2.

¹² Essential Services Commission (October, 2002), *Final Decision: review of gas access arrangements*.

¹³ ACG (December, 2004), *Debt and Equity Raising Transaction Costs – Final Report*, Report to The Australian Competition and Consumer Commission.

debt raising transaction costs. When the Australian Energy Regulator (AER) inherited the energy regulation tasks of state-based regulators (including the ESC), it adopted the ACCC's (i.e. based on ACG) approach, and in the previous review of TransGrid's 2014/15 – 17/18 proposal, it estimated the debt raising transaction cost based on an analysis undertaken in 2013 by PricewaterhouseCoopers (PwC).¹⁴ As noted above, the recognition of these debt raising transaction costs and their allowance as part of the revenue requirement is consistent with the requirements of the NER.

3.2.2 Liquidity costs incurred due to Standard & Poor's liquidity requirement formula

The second direct cost associated with the issue of debt is the cost of compliance with Standard & Poor's requirements regarding the liquidity of rated businesses.

History of Standard & Poor's liquidity requirement

At the beginning of the global financial crisis, Standard & Poor's noted in its *Corporate Ratings Criteria 2008* that 'gradual erosion in a company's fundamentals can ultimately lead to liquidity problems,' and there is therefore a need to focus on the downside scenario in which 'cash is king'. In a lengthy exposition on sources and uses of funds in the downside case, Standard & Poor's described the risks and implied that a forward-looking cash flow analysis is required to assess liquidity.¹⁵

Our analytical focus here is on the downside: whether the company can meet its obligations on a rainy day rather just under the expected circumstances... In any event, the starting point of liquidity analysis is the maturity schedule for debt and other long-term obligations... Even when analysing highly creditworthy companies, it is necessary to be aware of the overall maturity structure and potential for refinancing risk... The best sources of liquidity are surplus cash and near cash on the balance sheet.

While Standard & Poor's April, 2008 report implied the need for a forward-looking cash flow analysis, it was not prescriptive about how such an analysis should be conducted, and what metrics should be targeted. While the report was released as the global financial crisis was beginning to unfold, this was not anticipated by Standard & Poor's at the time. It was not until July 2010, i.e. after the global financial crisis had run its full course, that Standard & Poor's formalised a framework for the assessment of liquidity, and defined the requirements for an 'adequate' level of liquidity.

It may be asked why liquidity costs were not observed or requested by regulated businesses prior to 2010? The answer is that prior to 2010 liquidity costs were incurred on an ad hoc basis, there was no standard practice among businesses, and neither was there a formal requirement from a rating agency to maintain given ratios. In that year Standard & Poor's introduced an explicit and non-negotiable formulaic liquidity requirement. In 2011 Standard & Poor's published a refinement to its 2010 paper on liquidity descriptors, in which it clarified that 'to receive an ICR [issuer credit rating] of "BBB-" or

¹⁴ PwC (June, 2013), *Energy Networks Association: Debt Financing costs*.

¹⁵ Standard & Poor's (15 April, 2008), *Corporate Ratings Criteria 2008*, RatingsDirect, pp.47-53.

higher, a company's liquidity must be scored as "adequate", as we define the term, or stronger.¹⁶ A further iteration, with slight modifications, was published in January 2014.¹⁷

Standard & Poor's liquidity requirement

Standard & Poor's has stated that unless it assesses the liquidity position of the business to be at least 'adequate', that business is unlikely to be able to maintain an investment grade credit rating. Having an investment grade credit rating is, in turn, necessary for the business to achieve the assumed benchmark cost of debt. Standard & Poor's formal requirement is that to achieve what it terms an 'adequate' level of liquidity, a utility business must be forecast to be able to maintain a ratio of sources to uses of funds of at least:

- 1.1 times on a base case 6 month forecast of cash flows; and
- 1.0 times if EBITDA were to decline by 15 per cent.

Based on the forecast of benchmark regulatory revenues and cash outflows, the ratio of the sources to uses of cash flow can be forecast. If the sources to uses ratio does not satisfy the conditions outlined above, the business would need to arrange for the commitment of sufficient undrawn bank lines that will achieve the target ratio / condition. Since it is a pre-requisite for obtaining an investment grade credit rating, the cost of maintaining the liquidity buffer is directly linked to the cost of debt. It is also a cost that is linked to the requirement that a benchmark investment grade credit rating is maintained by TransGrid.

Estimation of the Standard & Poor's liquidity requirement

Due to the formalisation of the sources/uses formula that Standard & Poor's applied in 2010, from that year the benchmark cost to a TNSP could be estimated with a reasonable degree of accuracy.¹⁸ These costs are paid to banks to ensure that adequate liquidity would be maintained even in the event of an unforeseen negative market event. We have applied essentially the same forward cash flow forecast method that is applied by Standard & Poor's to estimate the liquidity requirement cost.

3.2.3 Costs incurred due to Standard & Poor's requirement to finance three months ahead

The third direct cost that TransGrid incurs in the course of debt issuance is the cost of compliance with Standard & Poor's requirement to secure the refinancing of maturing bonds three months ahead of the maturity date.

¹⁶ Standard & Poor's (28 September, 2011), *Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers*, Global Credit Portal, RatingsDirect.

¹⁷ Standard & Poor's (2 January, 2014), *Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers*, Global Credit Portal, RatingsDirect

¹⁸ Standard & Poor's (2 July, 2010), *Methodology And Assumptions: Standard & Poor's Standardizes Liquidity Descriptors For Global Corporate Issuers*, Global Credit Portal, RatingsDirect.

History of Standard & Poor's three month ahead financing requirement

Since the 1970 bankruptcy of Penn Central in the US, Standard & Poor's had required issuers of commercial paper (CP)¹⁹ to put in place contractually committed liquidity back-up months ahead of maturity in case there is a general contraction in the CP market.²⁰ In Australia Standard & Poor's changed its approach towards debt refinancing following the difficulties that were faced by the Melbourne-based Centro Properties Group in March 2008.

Standard & Poor's three month ahead financing requirement

Standard & Poor's new policy (March 2008) stated:²¹

For the Australian investment-grade corporates, we expect to see a measured and logical approach to meet upcoming debt maturities. We would want to see that the company has a credible strategy for repaying or refinancing debt maturities up to 18 months ahead... To avoid negative rating consequences, the ideal progression would be: 12-to-18 months ahead of maturity, the company would have a detailed and credible refinancing plan (including a contingency plan);

- *No less than 6 months ahead of the maturity, the company would have documentation substantially in place for the replacement debt issue/s; and*
- *No less than three months ahead of the maturity, the refinancing would be essentially completed, committed, or underwritten.*

The penalty for non-compliance was also spelled out:

It's not possible to generalize, but if the refinancing of a significant impending debt maturity had not been completed, committed or underwritten three months prior to the maturity date, then a rating action would be likely.

Having to comply with Standard & Poor's requirement to refinance three months ahead or else face 'likely' ratings action, imposes a cost that is linked to:

- The assumption of a benchmark credit rating, and
- To the assumption that the benchmark cost of debt can be achieved: i.e. if businesses do not refinance three months ahead of a maturity, it is likely that their ability to obtain the benchmark pricing assumed for the cost of debt would be impaired because at maturity there would be no option but to take the price that is offered.

¹⁹ Commercial paper is a short term unsecured promissory note that matures within 270 days, and is only available to larger companies with strong credit ratings.

²⁰ In the case of companies rated A-2 (equivalent to BBB and BBB+) the requirement is for 100 per cent cover 3 months ahead of maturity. See Standard & Poor's, *Corporate Ratings Criteria*, p.83.

²¹ Standard & Poor's (22 April, 2008), *Refinancing And Liquidity Risks Remain, But Australia's Rated corporates Are Set To Clear The Debt Logjam*, Global Credit Portal

Estimation of the Standard & Poor's three month ahead financing requirement

With respect to the cost of three-month ahead financing, we agree with the approach that was suggested by PwC (2013), where the cost was estimated by taking the three-month interest cost borne on the refinanced bond(s) and subtracting the interest that can be earned on a BBB rated bond with a three-month term.²² To this net cost, we add the establishment fee and other costs associated with the issue of the BBB rated bond. As for debt raising transaction costs and liquidity costs, the three month ahead refinancing requirement is a cost associated with the benchmark credit rating and the cost of debt, and is consistent with the NERs' requirement that efficient benchmark costs be compensated.

3.3 Response to the AER's disallowance of debt raising costs

3.3.1 Introduction

TransGrid has requested that we respond to the AER's decision to disallow TransGrid's 2014/15 to 2017/18 debt raising cost proposal, which included debt raising transaction costs, liquidity costs and three-month ahead financing costs.²³ While accepting the debt raising transaction cost component, the AER did not allow the other two components of TransGrid's proposal. In its Final decision the AER's fundamental reason for disallowing these debt raising cost components was expressed as follows:²⁴

*Under s.16 of the NEL, we must perform our functions in a manner that will or is likely to contribute to the achievement of the NEO. In giving effect to this, we must specify the manner in which the constituent components of our decision relate to each other, and the manner in which that **interrelationship** has been taken into account in the making of our decision.*

*Accordingly, if costs are adequately compensated in one component of our decision, we must take that into account when considering the **interrelated components** of our decision. Otherwise, the overall decision may over- or under- compensate the service provider.*
(emphasis added)

In this section we respond to the AER's views on this issue.

3.3.2 AER's fundamental reason: sufficient compensation is provided through an 'interrelated component'

The AER's position

The AER expressed its reasons for disagreeing with the disallowed debt raising cost elements in a number of alternative ways. However, the core of its argument boiled down to the following set of propositions:

- there are other elements of the calculation of the building block revenue requirement that provide an offsetting bias – the specific argument of the AER is that its calculation of the building block revenue requirement assumes that revenue is received later within any year than is likely to be the

²² PwC (June, 2013), *Energy Networks Association: Debt financing costs*.

²³ AER (April, 2015), pp. 3-547 to 3-550.

²⁴ AER (April, 2015), p. 3-545.

case in practice (referred to as “timing conservatism” below), which in turn leads to the building block revenue requirement being overstated

- the overstatement of the building block revenue requirement from the timing conservatism is larger than the quantum of the disallowed categories of debt raising costs
- there is an interrelationship between the overstatement of the building block revenue requirement arising from the timing conservatism and the disallowed debt raising costs, and
- the AER is allowed – and indeed, compelled – to take account of such logical interrelationships when considering a regulatory proposal, so that the AER is required to deny the proposed recovery of liquidity costs and the cost of securing an early refinancing of debt.

The AER’s reasons in relation to TransGrid’s last revenue proposal did not conclude that the denied allowances were not costs that a prudent and efficient operator would incur.

Absence of any interrelationship between debt raising costs and timing conservatism

In contrast to the AER’s position, there is no logical interrelationship between the disallowed debt raising costs and any timing conservatism that may exist. The AER’s argument in relation to timing conservatism relates to how accurately the algorithms in the PTRM represents the true timing of cash flows to a regulated business. In contrast, the disallowed items are two cash expenses that a prudent and efficient firm must bear in order to raise debt. The existence of the timing conservatism in the PTRM does not affect whether a prudent and efficient firm needs to meet the liquidity requirement and to refinance its debt early. Similarly, the requirement to meet these debt raising expenses does not affect the question of whether there is timing conservatism in the PTRM algorithms.

Moreover, in contrast to the AER’s line of argument, there is in fact a logical interrelationship between the debt risk premium that the AER provides and the costs that the AER has denied. The debt risk premium assumes that a firm has an investment grade credit rating and, as we discussed earlier, in order to achieve such a credit rating a firm would need to meet the requirements (and bear the associated costs) in relation to liquidity and the timing of debt refinancing. It follows that the requirement to consider and respect logical interrelationships should in fact compel the AER to provide (rather than to deny) the allowances for the costs in relation to liquidity and the timing of debt refinancing.

For the sake of completeness, we also note that the AER pointed out that one of the authors to the previous Incenta report (who is also an author of the current report) had advised the ACCC in relation to whether a working capital allowance should be provided in 2002 (the advice being “no”).²⁵ It was suggested that there was an inconsistency between that view and our current advice to TransGrid. We reject the suggestion of inconsistency. Working capital is a device for fine tuning the representation of the within-year timing of cash flow in a building block revenue requirement calculation. It follows that, when considering whether a working capital allowance is appropriate, it must first be asked how accurately the within-year timing of cash flow is dealt with in the building block revenue requirement calculation. The 2002 report observed that the standard building block calculations already contained a conservative representation of the within-year timing of cash flow and that adding a working capital

²⁵ ACG (March, 2002), *Working Capital, Relevance for the Assessment of Reference Tariffs, Report to the ACCC*.

allowance would result in an even less accurate representation of this timing. It therefore advised against providing a working capital allowance. Hence, in this situation, there is a fundamental interrelationship between the matter of whether a working capital allowance is appropriate and the question of how accurately the building block revenue requirement calculations reflect the timing of cash flow. The same logical interrelationship does not exist between the cash-costs a firm would incur to access debt markets and the accuracy of the building block algorithms.

A broader ability to make offsets for unrelated issues

The AER's reasons on TransGrid's previous application also suggested a belief that the presence of timing conservatism in the PTRM algorithms is sufficient to deny an allowance for the costs of meeting liquidity requirements and to refinance debt early. That is, the AER also seems to suggest that there is no need for there to be any interrelationship between the items, but rather that perceived conservatism in one item of a building block calculation could be used to offset an otherwise appropriate allowance for an unrelated item.

Whether the AER is allowed under the National Electricity Rules to make offsets between unconnected items of a building block revenue requirement calculation is principally a legal question, and to that extent is beyond our expertise. We observe that our reading of the National Electricity Rules (as economists) is that the AER is required to make an appropriate decision on each of the items of the building block calculation (after considering interrelationships), which is consistent with our understanding of what is contemplated by a building block approach to setting revenue requirements. Moreover, if the AER is allowed to make offsets across unrelated areas of a building block calculation, it is not clear to us why the AER has singled out aspects of the cost of raising debt to be offset. These are simply cash costs that a prudent and efficient operator would need to bear, and are no different in this regard to other cash costs, such as maintenance expenses.

Treatment of debt raising costs as opex

The AER's final decision also stated that TransGrid's proposal had incorrectly assumed that debt raising costs can only be considered as opex, and can only be treated as such by a regulator. The AER's view is that it is equally valid to treat them as a component of the rate of return.

In our view, nothing turns on this line of argument. It is possible in principle to make an allowance for the prudent and efficient debt raising costs through adding an increment to the operating expenditure allowance or the rate of return, and if a consistent approach were followed, then a regulated business (and customers) would be indifferent to this choice.

Costs have arisen since the creation of the PTRM

Moreover, the formal requirements on firms in relation to liquidity and timing of debt finance have arisen largely since the Global Financial Crisis (reflecting changes made to Standard & Poor's methodologies in 2010 and 2008, respectively). These are, therefore, new obligations (implying new costs) that have arisen since the PTRM algorithms were established. If – as would appear reasonable to assume – the AER considered the PTRM algorithms to provide an appropriate revenue requirement at the time it was developed, the revenue requirement would only remain appropriate over time if it was raised to reflect new cost items (just like it would only be appropriate if it was reduced to reflect reductions in cost). To be clear, providing an allowance for the costs of meeting liquidity and

refinancing timing requirements would not amount to a reopening of the assumptions that were factored into the design of the PTRM.

3.4 Conclusion

There is no relationship between the disallowed debt raising costs and the accuracy of the PTRM algorithms. Indeed, there is nothing unique about liquidity and financing costs that distinguishes them from other costs incurred by prudent and efficient utility firms (like maintenance expenditure), and since the Global Financial Crisis they are costs that can now be benchmarked and accurately estimated. Accordingly, the AER's principal arguments from the last review for not providing an allowance for the costs of meeting the liquidity requirements and early refinancing of debt that prudent and efficient utility firms need to meet in order to maintain an investment grade credit rating were in error. Whether the AER has a broader ability under the National Electricity Rules to offset perceived overcompensation in one part of a decision against an unconnected item is largely a legal issue, although we note that this is not consistent with the standard application of the building block approach.

Lastly, we observe that these costs have largely arisen since the GFC – that is, the requirements are now specific and more closely monitored by ratings agencies, and so more likely to result in costs being incurred by utilities. It follows that even if the PTRM was considered to form an appropriate balancing of interests when its principal algorithms were created, it cannot be assumed that these additional costs can be absorbed by utilities without upsetting that balance.

4. Estimates of TransGrid's benchmark debt raising costs

4.1 Introduction

In this chapter we show our estimates for each of the three components of total debt raising costs. The first element is the costs associated with raising bonds in the market using the findings of the PwC (2013) study as guidance for benchmark costs. We follow this with an estimate of liquidity requirement costs using the Standard & Poor's method, and finally the estimate of 3 month ahead financing costs.

4.2 Debt raising transaction costs

To estimate the transaction costs associated with bond issues we have relied on the PwC (2013) report, whose findings have been accepted by the AER. The estimates in that report were based on interviews with legal firms, banks and credit rating agencies that charge fees for facilitate the bond raising process. Table 4.1 below shows that by applying PwC's benchmark cost estimates, the benchmark debt-raising transaction cost estimate is 9.61 basis points per annum (bppa) for one bond issue of \$250 million, and a cost of **8.82 bppa** for TransGrid's estimated 15 benchmark bond issues.²⁶

Table 4.1: TransGrid – benchmark debt-raising transaction costs (bppa)

Number of bonds	Value	1 bond issued	15 bonds issued
Amount raised		\$250 million	\$3,750 million
Arrangement/Placement fee		7.57	7.57
Bond master program (per program)	\$56,250	0.30	0.02
Issuers Legal counsel	\$15,625	0.08	0.08
Company credit rating	\$77,500	0.41	0.03
Annual surveillance fee	\$35,500	0.14	0.01
Up-front issue fee	5.2	0.68	0.68
Registration up-front (per program)	\$20,850	0.11	0.11
Registration annual	\$7,825	0.31	0.31
Agents Out of pockets	\$3,000	0.02	0.02
Total (bppa)		9.61	8.82

Source: Based on PwC (2013), p.19.

4.3 Liquidity costs

4.3.1 Introduction

As noted in our previous reports for TransGrid, to estimate the cost of a liquidity reserve, it is necessary to calculate:

²⁶ The arrangement / placement fee of 7.57 bppa was derived by applying a WACC of 6.6 per cent to the 21 Australian bond issues in the US between 2008 and 2013 that were used by PwC (2013).

- The quantum of the liquidity reserve (i.e. commitments of bank debt) implied. That is, the committed but unused bank debt required in the event of a liquidity crisis;
- The commitment fee that is charged by banks to hold the bank debt that is available in the event of a liquidity crisis; and
- The upfront fee charged by banks and associated costs to establish the liquidity reserve bank debt facility (i.e. the ‘establishment fee’ and other transaction costs).

4.3.2 The quantum of the required liquidity reserve

In this section, we apply the bottom-up methodology that uses Standard & Poor’s sources and uses formula to determine the minimum liquidity requirement. The core inputs for the forward cash flow analysis are the benchmark outputs of TransGrid’s PTRM model.

In Table 4.2, we estimate the value of committed but undrawn bank lines required to meet the liquidity ratios ranges from \$240 million to \$384 million over the next regulatory period, which equates to between 6.2 per cent and 8.9 per cent of benchmark debt. Furthermore, the second limb of Standard & Poor’s liquidity requirements is satisfied in all years.²⁷

Table 4.2: TransGrid – bank lines required to satisfy S&P’s liquidity requirement (sources/uses test) forecasting 6 months ahead (\$million)

PTRM model outputs:	2018-19	2019-20	2020-21	2021-22	2022-23
Revenue (Smoothed)	394.2	407.9	422.2	436.9	452.2
Operating costs	88.6	89.4	90.6	92.0	93.2
EBITDA	305.6	318.6	331.5	344.9	358.9
(A) Sources:					
EBITDA	305.6	318.6	331.5	344.9	358.9
Less, Cash taxes	38.3	39.7	40.9	43.0	44.7
Less, Interest paid	109.9	112.2	115.5	119.7	123.4
Funds From Operations	157.4	166.7	175.2	182.2	190.9
Plus, Proceeds of asset sales	0.0	0.0	0.0	0.0	0.0
Total Sources:	157.4	166.7	175.2	182.2	190.9
Total Sources if EBITDA falls 15%:	127.0	134.9	142.1	147.7	155.2
(B) Uses:					
Expected capital spending	114.0	162.7	183.5	202.8	229.4
Plus, Debt repayments	184.4	180.7	189.4	185.1	220.1
Plus, Dividend payments	62.6	64.9	66.7	70.2	73.0
Total Uses:	360.9	408.3	439.7	458.0	522.4
Undrawn committed bank lines for source/uses = 1.1x	239.6	282.4	308.5	321.6	383.8
Undrawn committed bank lines as % of regulatory debt	6.2%	7.2%	7.6%	7.7%	8.9%

Source: TransGrid PTRM and Incenta analysis

4.3.3 Commitment fee

The PwC (2013) report noted that under current market practice banks charge a commitment fee that is 50 per cent of the margin over the swap rate that the bank would charge for lending the funds. We estimate that the cost of the commitment fee would be 93 basis points for the required bank facility.

²⁷ That is, with the committed but unused facilities in place, sources exceed uses even with a 15 per cent reduction in EBITDA.

That is, half of the spread between the 3 year Bloomberg BBB yield of 3.69 per cent (as a proxy for the cost of bank debt) and the 3-year swap rate of 1.82 per cent during the averaging period.²⁸

The annualised commitment fees for a firm with TransGrid's characteristics are shown in Table 4.3. The bank facility required each year to support committed but unused bank lines to satisfy our estimate of Standard & Poor's liquidity requirements convert to a commitment fee (in dollars based on the 0.93 per cent per annum commitment fee estimate), which in turn converts to a basis points per annum fee (based on the outstanding debt component of the RAB). We find the commitment fee to range from \$2.24 million to \$3.58 million per annum, which translates to between 5.8 basis points and 8.3 basis points on a levelised basis.

Table 4.3: TransGrid – benchmark bank facility commitment fees (basis points per annum)

	2018-19	2019-20	2020-21	2021-22	2022-23
Debt (60% of RAB) (\$m)	3,843.4	3,915.1	4,035.0	4,171.7	4,327.4
Liquidity reserve - Bank facility required (\$m)	239.6	282.4	308.5	321.6	383.8
Commitment fee (\$m)	2.24	2.64	2.88	3.00	3.58
Commitment fee (bp)	5.8	6.7	7.1	7.2	8.3
Levelised bppa on regulatory debt	7.0				

Source: TransGrid PTRM, PwC (2013) and Incenta analysis

4.3.4 Establishment fee and other transaction costs associated with establishing the bank debt facility

The third cost component of maintaining a liquidity reserve (see Table 4.4 below) is the upfront cost of establishing the bank debt facility. Adopting the benchmark values estimated by PwC (2013) this is an annualised amount of \$252,069 for 2018-19, or approximately 0.66 of a basis point.²⁹

Table 4.4: TransGrid – establishment fee and other transaction costs required to establish a committed but unused bank debt facility for a \$3,843 million debt portfolio (2018-19)

	Basis	Cost	Annual	Bppa	Source:
Establishment fee	Up-front	407,354.64	\$154,101	0.40	PwC (2013): 0.17% x quantum of bank debt (\$239.6 million), annualised with TransGrid's discount rate
Other bank transaction costs:					
-legal counsel – borrower	Up-front	\$86,667	\$32,786	0.09	PwC (2013): annualised with TransGrid's discount rate
-legal counsel – bank	Up-front	\$90,000	\$34,047	0.09	PwC (2013): annualised with TransGrid's discount rate
-Syndication fee	Per annum	\$30,000	\$30,000	0.08	PwC (2013): annual fee
-Bank's out-of-pockets	Up-front	\$3,000	\$1,135	0.00	PwC (2013): annualised with TransGrid's discount rate
Total Annual Equivalent			\$252,069	0.66	Basis points per annum

Source: TransGrid PTRM, PwC (2013) and Incenta analysis

²⁸ For consistency with TransGrid, we have applied the same averaging period that was used to calculate TransGrid's contemporaneous cost of debt. This averaging period was from 1 April, 2016, to 31 October, 2016.

²⁹ PwC (June, 2013), p.iv.

In Table 4.5 we show that the establishment fee and other transaction costs vary with the bank facility required during each year of the regulatory period. On a levelised basis, using TransGrid's 6.6 per cent discount rate, we estimated an establishment fee and other costs component of 0.72 basis points per annum.

Table 4.5: TransGrid – establishment fee and other transaction costs (basis points per annum)

	2018-19	2019-20	2020-21	2021-22	2022-23
Establishment fee (annual equivalent)	154,101	181,613	198,396	206,833	246,795
Other bank transaction costs	97,968	97,968	97,968	97,968	97,968
Total Annual Equivalent (\$)	252,069	279,580	296,364	304,801	344,763
Total Annual Equivalent (bppa)	0.66	0.71	0.73	0.73	0.80
Levelised bppa on regulatory debt	0.72				

Source: TransGrid PTRM and Incenta analysis

4.3.5 Total liquidity costs

Table 4.6 shows the total benchmark cost of establishing and maintaining the liquidity reserve needed to meet Standard & Poor's liquidity requirements. It is estimated at between \$2.49 million and \$3.93 million, which converts to a levelised cost of **7.72 basis points per annum** on the regulatory debt.

Table 4.6: TransGrid – Total establishment fee and other transaction costs associated with establishing a committed but unused bank debt facility

	2018-19	2019-20	2020-21	2021-22	2022-23
Commitment fee (\$m)	2.24	2.64	2.88	3.00	3.58
Establishment and other bank transa	0.25	0.28	0.30	0.30	0.34
Total annual equivalent costs (\$)	2.49	2.92	3.18	3.31	3.93
Total annual equivalent costs (bppa)	6.48	7.45	7.87	7.93	9.08
Levelised bppa on regulatory debt	7.72				

Source: TransGrid PTRM, PwC (2013) and Incenta analysis

4.4 Three month ahead financing costs

Table 4.7 applies a spot cost of debt assumption of 4.81 per cent, sourced from TransGrid, and assumes re-investment for 3 months in a BBB rated bond 3.04 per cent (based on the Bloomberg's BVCSAB3M curve) to calculate an early re-financing cost of 2.9 basis points per annum for a debt portfolio of \$250 million.³⁰

Table 4.7: Cost of re-financing a \$250 million bond

Calculation element	Upfront cash cost for \$250m (\$m)	Cost for \$250m debt portfolio (bppa)
3 month interest cost on new bond (10 year BBB+)	3,007,580	
3 month BBB+ credit rated interest income	-1,900,372	
Total cost if invested in BBB credit risk and no redemption/buy back	1,107,208	2.9

³⁰ This compares with 6.8 bppa that was calculated in our earlier report.

Source: TransGrid PTRM and Incenta analysis

Table 4.8 shows that the establishment fee and other costs range from \$1.63 million to \$1.95 million, which convert to a range of 4.25 to 4.51 basis points per annum, or a levelised **4.18 basis points per annum** on regulatory debt over the period.

Table 4.8: TransGrid benchmark cost of re-financing 3 months ahead

	2018-19	2019-20	2020-21	2021-22	2022-23
Maturing component of debt portfolio (\$m)	368.8	361.4	378.9	370.1	440.3
Cost of 3 month ahead financing (\$m)	1.63	1.60	1.68	1.64	1.95
Cost of 3 month ahead financing (bppa)	4.25	4.09	4.16	3.93	4.51
Levelised bppa on regulatory debt (3 month ahead financing)	4.18				

Source: TransGrid PTRM and Incenta analysis

4.5 Combined debt raising costs

We find in Table 4.9 that the estimated combined dollar value of debt raising costs ranges from \$7.5 million to \$9.7 million, and the equivalent values in terms of basis points per annum, based on the regulatory debt ranges from 19.5 bppa to 22.4 bppa. The combined levelised debt raising cost of **20.7 basis points per annum** is obtained by taking the estimated \$37 million net present value (NPV) of the benchmark total debt raising costs relative to the NPV of outstanding benchmark debt over the regulatory period (\$17,861 million) using TransGrid's proposed WACC of 6.6 per cent as the discount rate.

Table 4.9: TransGrid – total debt raising costs (basis points per annum)

	2018-19	2019-20	2020-21	2021-22	2022-23
Debt raising transaction costs (\$m)	3.4	3.5	3.6	3.7	3.8
Liquidity requirement costs (\$m)	2.5	2.9	3.2	3.3	3.9
3 month ahead financing costs (\$m)	1.6	1.6	1.7	1.6	1.9
Total debt raising transaction costs (\$m)	7.5	8.0	8.4	8.6	9.7
Debt raising transaction costs (bppa)	8.8	8.8	8.8	8.8	8.8
Liquidity requirement costs (bppa)	6.5	7.5	7.9	7.9	9.1
3 month ahead financing costs (bppa)	4.2	4.1	4.2	3.9	4.5
Total debt raising transaction costs (bppa)	19.5	20.4	20.9	20.7	22.4
Levelised debt raising costs (bppa)	20.7				

Source: TransGrid PTRM and Incenta analysis