Response to the Draft Decision on the Return on Debt Allowance

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Response to the Draft Decision on the Return on Debt Allowance

A report for Ashurst

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Executive Summary

We have prepared this report at the request of Ashurst on behalf of TransGrid, an electricity transmission network service provider in New South Wales. The context of our report is the Australian Energy Regulator's (AER's) draft decision for TransGrid for the 2014 to 2018 regulatory control period (the draft decision). This is the second report prepared by the authors on the allowed return on capital for TransGrid.[1]

In contrast to our earlier report, which addressed multiple components of the allowed rate of return, Ashurst has requested that we respond only to the AER's draft decision on the cost of debt component of the allowed rate of return. In particular, this report addresses two key aspects of the AER's draft decision on the cost of debt allowance, being:

- the transition of the allowed cost of debt from the current 'on-the-day' allowance to a trailing average return on debt allowance, derived over a period of 10 years; and
- the use of two third party data sources to calculate the annualised debt yield.

There is broad agreement that, going forward, a benchmark efficient network would periodically issue fixed rate debt in a manner that minimised its actual cost of debt while managing refinancing risk, ie, it will adopt a trailing average approach to managing its debt portfolio. An allowed cost of debt that is set by reference to a trailing average of annual benchmark debt yields has a number of positive attributes, ie, it:

- provides a network business with a reasonable opportunity to recover its prudent debt costs;
- protects consumers from any poor or inefficient debt management practices of networks;
- provides an incentive for the network to minimise its actual debt costs; and
- substantially reduces interest rate risk.

Transitional arrangements

The first consideration contended by the AER is whether immediately to align the cost of debt allowance with the interest costs that could be expected to arise under the debt management strategy of a benchmark efficient network business or, alternatively, to impose transitional arrangements that introduce this alignment for a period of ten years.

In our opinion, there is no reasonable basis for deferring the alignment of the cost of debt allowance with the debt management strategy of a benchmark efficient network business.

In this report we demonstrate that the debt management strategy on which the transitional arrangements are predicated results in a network business no longer having an incentive to minimise its total cost of debt. Instead, the network business has an incentive to minimise only a component of its total debt costs (ie, the debt risk premium or 'DRP') while also managing its refinancing risk. In contrast, a debt strategy of issuing fixed rate debt – which would require no transitional arrangements – results in a network business having an incentive to minimise its total cost of debt while also managing its refinancing risk. In our opinion, a network business that adopts a debt management strategy that minimises its total cost of debt, and so is productively efficient, must be operating in manner that is consistent with the National Electricity Objective (NEO).

Further we highlight that the AER's rate of return expert – Dr Lally – agrees with our assessment that an efficient business in the circumstances of TransGrid, ie, with a similar level of benchmark debt and so a similar demand for floating-to-fixed swaps, would not be capable of pursuing the AER's proposed benchmark efficient debt strategy. In particular, a benchmark efficient business with similar risk as TransGrid would not

[1] NERA, *Return on Capital for a Regulated Electricity Network*, May 2014. At the time the NERA report was prepared Greg Houston and Brendan Quach worked at NERA, however, they have since left NERA and are now working at HoustonKemp Economists.

be able to hedge the underlying risk free rate component of the cost of debt by entering into sufficient swap agreements over the period in which the AER sets the cost of debt allowance.

Notwithstanding this finding, Dr Lally argues that it would still be efficient for a benchmark efficient business with similar risk as TransGrid periodically to issue fixed rate debt and hedge the risk free rate at the time of a regulatory determination, because the business would simply hedge over a longer period, ie, 73 days. However, Dr Lally's assessment does not appear to appreciate the additional risk and costs that this strategy would impose on a benchmark efficient entity with similar risk as TransGrid, as compared with a benchmark efficient business that is able to hedge its full exposure to the risk free rate during the averaging period allowed by the AER. UBS estimates that not being able to put in place sufficient hedges within the averaging period allowed by the AER would result in $819 million in potential risk to the combined NSW service providers, of which $157 million would fall to TransGrid.[2]

Further, when seeking to cancel $20 billion of swaps of a variety of tenors (predominately shorter than 5 years) in early to mid-2009, the Australian Office of Financial Management (AOFM) took over 6 months to enter into 130 contracts with a value of $15.25 billion. This evidence suggests that a benchmark efficient business with similar risk as TransGrid, in combination with other network businesses that face similar averaging periods, may take in the order of 6 months to enter into fixed-to floating swap agreements sufficient to hedge their entire debt portfolios. It follows that a hedged trailing average approach would only have a limited capacity to remove the risks associated with movements in the risk free rate.

Finally, the AER's proposed benchmark efficient debt strategy of hedging one component of the cost of debt, ie, the risk free rate, while remaining exposed to movement in the DRP, potentially adds additional interest rate risk by removing a natural hedge that exists between the DRP and the risk free rate. This natural hedge arises from observed negative correlation between risk free rates and the DRP set out in the academic literature.

To summarise, the AER's proposed benchmark efficient debt strategy:

- does not provide an incentive for a benchmark efficient business to minimise its expected total cost of debt; and
- does not allow a benchmark efficient business with similar risk as TransGrid to enter into sufficient floating-to-fixed swap agreements during the period over which the cost of debt is fixed, and so precludes it from efficiently hedging its exposure to the underlying risk free rate; and
- removes a natural hedge that exists as a result of the negative correlation between the DRP and the underlying risk free rate.

In contrast, a strategy of periodically issuing fixed rate debt can be implemented by a benchmark efficient business with similar risk as TransGrid. Further, where the allowed cost of debt is set by reference to prevailing yields, ie, the on-the-day approach, a network business that periodically issues fixed rate debt and does not hedge the risk free rate is able:

- to recover its total debt costs over the long term;
- to minimise its total debt costs; and
- to manage refinancing risk.

On this basis, a trailing average approach would be an appropriate strategy for a benchmark efficient business to pursue when the allowed cost of debt is determined using the on-the-day approach. It follows that a benchmark efficient business that adopts a trailing average approach, ie, periodically issues fixed rate debt and does not hedge its exposure to the risk free rate, does not require any transitional arrangements

[2] UBS, *UBS response to the TransGrid request for interest rate risk analysis following the AER draft decision of November 2014*, January 2015, page 3.

when the approach to determining the cost of debt allowance changes from an on-the-day to a trailing average approach.

In this report we also refute the contentions put forward by Dr Lally in support of the transitional arrangements, and conclude that:

- there exist sufficient historical data to implement immediately the trailing average approach to determining the cost of debt allowance;
- the immediate implementation of a trailing average does not result in a 'windfall gain' for TransGrid but, rather, Dr Lally's analysis suggesting such is incorrectly premised on the assumption that:
  - prior to 2007 a network business' allowed cost of debt matched the benchmark efficient debt costs; and so
  - it is necessary for the AER's 2014 decision to claw back possible windfall gains associated with the allowed cost of debt set for the 2009-14 period; and
- the transitional arrangements result in a material change in the financial circumstances of TransGrid, as compared with those that would prevail under the continuation of the previous on-the-day approach to determining the cost of debt allowance.

In section 3.4 of this report we set out why the imposition of the proposed transitional arrangements are inconsistent with the evident intention of the Australian Energy Market Commission (AEMC) when making the current rule and are also contrary to good regulatory practice. For example, the AEMC noted that SFG concluded that:[3]

> Service providers are likely to have entered into financial arrangements to mitigate their risk given the current approach to estimating the return on debt. Therefore, any change in approach could lead to some service providers gaining extra revenue or losing revenue as a result of unwinding those financial arrangements. Gains or losses of revenue of this type from changes in regulatory arrangements could be perceived by investors as increasing regulatory risk, and thereby lead investors to seek a higher rate of return. SFG therefore recommend that consideration be given to transitional arrangements when changing the approach to estimating the return on debt.

In our opinion, it is an entirely appropriate question for a regulator to ask whether a windfall gain or loss may arise as a result of changes in the cost of debt methodology. Notwithstanding the reasonableness nature of such a question, in these circumstances the immediate introduction of a trailing average cost of debt allowance would not result in any windfall gains or losses because TransGrid's debt financing practice is both efficient and already broadly consistent with a trailing average approach to the determination of a cost of debt allowance.

Further, we note that any assessment of the actual gains or losses caused by a change in the regulatory regime is not a straight forward exercise. Under incentive-based regulation, a network service provider can be expected to out- or under-perform the debt costs of a benchmark efficient business. It follows that any assessment of the extent to which windfall gains or losses may have arisen must distinguish between those which may have arisen as a result of a change in the regulatory arrangements, and those resulting from any out- or under-performance of the benchmark.

Further, in this instance TransGrid's debt management practice was entirely consistent with the former regulatory arrangements in that it had a reasonable prospect of recovering its debt costs over the long term, while also managing its refinancing risk.

On this basis, it is very difficult to conclude that TransGrid has been inefficient – as compared with a benchmark service provider – and so to justify a windfall loss in the order of hundreds of millions, which will occur if the transitional arrangements proposed in the draft decision are implemented. In our opinion, to do

[3] AEMC 2012, *Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper*, 29 November 2012, Sydney, page 76.

so would be inconsistent with good regulatory practice and would materially increase the perceived regulatory risk for network service businesses operating in the national electricity market.

It follows that, in our opinion, immediately adopting the trailing average approach to setting the cost of debt allowance would result in a materially preferable decision, as compared with that in the draft decision, because:

- such a decision would be made in a manner consistent with good regulatory practice and contribute to the achievement of the NEO;
- the value at stake is sufficiently material for there to be a reasonable risk that, if the AER's draft decision is incorrect, otherwise efficient investment decisions will be adversely affected; and
- the draft decision has the potential to increase the perceived level of regulatory risk, and so increase the cost of providing regulated transmission services, which is not in the long term interests of consumers of electricity.

The source of third party data

In its draft decision the AER proposes to estimate the yield on benchmark debt on any given day by applying a simple average of third party data provided by the Reserve Bank of Australia (RBA) and Bloomberg as follows:[4]

- the RBA broad-BBB rated 10 year curve (the RBA curve) – extrapolated so as better to reflect a 10 year estimate and interpolated to provide daily estimates; and
- the Bloomberg broad-BBB rated 7 year BVAL curve (the BVAL curve) extrapolated to 10 years or, where the broad-BBB rated 7 year BVAL curve is unavailable, the broad-BBB rated 5 year BVAL curve extrapolated to 10 years.

However, there are a number of missing data points in the 7 year BVAL curve prior to February 2011. Further, in our opinion an extrapolated 5 year BBB BVAL provides substantially less insight into the likely yield on benchmark debt than either the extrapolated 10 year BBB RBA curve (that has an average term of between 6.11 and 9.69 years) or the extrapolated 7 year BVAL curve.

Consequently, we recommend that, in years where the 7 year BVAL curve is not complete (ie, prior to the 2012 year), the annual debt yield should be calculated using only the RBA curve. This would be achieved by extrapolating the RBA curve so as better to reflect a 10 year debt yield and then averaging the month-end yields in each calendar year.[5] In contrast, in years where the BVAL curve is complete, the annual debt yield should be calculated by using the approach set out in the draft decision, ie, by using both the RBA curve and the BVAL curve.

[4] AER, *Draft Decision TransGrid Transmission Determination 2015-16 to 2017-18*, Attachment 3: Rate of Return, November 2014, page 3-10 with the estimation formulas set out in the Return on Debt Appendix.

[5] The RBA curve contains only month-end estimates of the debt yield.

1. Introduction

We have prepared this report at the request of Ashurst on behalf of TransGrid, an electricity transmission network service provider in New South Wales. The context of our report is the Australian Energy Regulator's (AER's) draft decision for TransGrid for the 2014 to 2018 regulatory control period (the draft decision).

The draft decision was made in response to TransGrid's revenue proposal for the 2014 to 2018 regulatory control period that was submitted to the AER in June 2014 (TransGrid's revenue proposal). TransGrid's revenue proposal relied on, and was submitted with, a report on the return on capital for a regulated electricity network that was prepared by the authors of this report.[6]

Ashurst has requested that we provide our opinion on the AER's draft decision on the cost of debt component of the allowed rate of return for TransGrid for the 2014 to 2018 regulatory control period. We attach our letter of engagement at Appendix A2.

In particular, in this report we comment on two key aspects of the AER's draft decision on the cost of debt allowance, being:

- to adopt a mechanism that provides for a gradual transition from the current 'on-the-day' setting of the allowed return on debt to a trailing average return on debt allowance over a period of 10 years; and
- to use two third party data sources to calculate the annualised debt yield.

1.1 Expertise

This report has been prepared by Greg Houston and Brendan Quach, with assistance from Dale Yeats.[7]

Greg Houston is a founding Partner of the economic consulting firm, HoustonKemp Economists. He has twenty five years' experience in the economic analysis of markets and the provision of expert advice and testimony in litigation, business strategy and policy contexts. Greg has developed this expertise in the course of advising corporations, regulators and governments on a wide range of regulatory, competition and financial economics assignments as well as detailed third-party access and price setting matters arising in the electricity, gas, water, wastewater, telecommunications, ports, rail and airport industries.

Greg has testified on these as well as competition economics matters on numerous occasions before arbitrators, appeal panels, regulators, the Federal Court of Australia, the Australian Competition Tribunal and other judicial or adjudicatory bodies.

In 2004 Greg was one of three members of an expert panel retained by the Standing Committee of Officials of the then Ministerial Council on Energy to advise on the appropriate specification of a national electricity objective, for inclusion in the then proposed national electricity law. Separately, in December 2005 Greg was appointed to an expert panel convened by the Minister for Industry and Resources, the Hon Ian Macfarlane, to prepare a report for the Ministerial Council on Energy on the harmonisation of the price determination elements of the access regimes for electricity and gas network services. The expert panel provided its report in April 2006, and many of its recommendations form the basis for the current framework of national electricity laws and rules.

Greg was until April 2014 a Director of the global firm of consulting economists, NERA Economic Consulting where, for twelve years he served on its United State Board of Directors, for five years on its global

[6] NERA, *Return on Capital for a Regulated Electricity Network*, May 2014. At the time the NERA report was prepared Greg Houston and Brendan Quach worked at NERA, however, they have since left NERA and are now working at HoustonKemp Economists.

[7] Dale Yeats is an economist in the Sydney office of HoustonKemp Economists.

Management Committee and for sixteen years as head of its Australian operations. Greg also serves on the Competition and Consumer Committee of the Law Council of Australia.

Brendan Quach is a Senior Economist at HoustonKemp Economists. He has 13 years of experience advising clients on the application of regulatory principles to airports, ports, telecommunications electricity transmission and distribution networks, water networks and gas pipelines.

Brendan has provided advice on application of the building block approach, incentive mechanisms, operating and capital allowances, financing and asset valuation to businesses, regulators and governments. He is a specialist in the cost of capital for use in regulatory price reviews and contract arbitrations, and has authored reports on all aspects of the cost of capital.

Curriculum vitae of both Greg Houston and Brendan Quach are attached to this report at Appendix A.1.

1.2 Structure of this report

The remainder of our report is structured as follows:

- section 2 summarises our recommended approach to determining the cost of debt allowance as well as that set out in the draft decision and, in so doing, highlights key areas of agreement and contention as relevant to determining the cost of debt allowance;
- section 3 describes the shortcomings associated with the AER's draft decision to impose on TransGrid a transition to a trailing average approach to calculating the return on debt allowance, as compared with the immediate adoption of a trailing average approach, by reference to the National Electricity Objective (NEO) and the allowed rate of return objective;
- section 4 sets out our contentions with the draft decision to estimate the annualised debt yield using third party data sourced from Bloomberg in years where the data sourced from Bloomberg is not complete; and
- section 5 sets out our conclusions.

Appendix A1 and A2 contain our curriculum vitae and our letter of engagement from Ashurst, respectively.

1.3 Declaration

The authors of this report, Mr Houston and Mr Quach, declare that we have both read and understood the Federal Court's Practice Note CM 7, entitled "Expert Witnesses in Proceedings in the Federal Court of Australia", and that we have prepared this report in accordance with those guidelines. We confirm that we have made all the inquiries that we believe are desirable and appropriate and that no matters of significance that we regard as relevant have, to our knowledge, been withheld from this report.

2. Background

The National Electricity Rules (the rules) state that the return on debt component of the allowed rate of return must be estimated such that it contributes to the allowed rate of return objective.[8] The allowed rate of return objective is that:[9]

> … the rate of return for a Transmission Network Service Provider is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the Transmission Network Service Provider in respect of the provision of prescribed transmission services

To this end, the rules permit the return on debt to be estimated using a methodology that reflects the debt financing practices of a benchmark efficient entity that:[10]

- raises all its debt at the time of the AER's final determination (the on-the-day approach); or
- raises all its debt over a historical period prior to the commencement of a regulatory year (the trailing average approach); or
- some combination of the on-the-day and trailing average approach.

Moreover, in estimating the return on debt, regard must be had to a number of factors, including:

> … the desirability of minimising any difference between the return on debt and the return on debt of a benchmark efficient entity referred to in the allowed rate of return objective.[11]

and

> …any impacts (including in relation to the costs of servicing debt across regulatory control periods) on a benchmark efficient entity referred to in the allowed rate of return objective that could arise as a result of changing the methodology that is used to estimate the return on debt from one regulatory control period to the next.[12]

For the avoidance of doubt, we assume that the above proposition applies to the change in methodology in the draft decision for the 2014 to 2018 regulatory control period, evaluated against the methodology applied in the 2009-2014 regulatory control period.

2.1 Recommended approach to the return on debt

We recommend a return on debt allowance for 2014/15 of 7.92 per cent. Our proposed methodology for deriving an estimate of the return on debt is substantially the same as that recommended by NERA and proposed by TransGrid for the 2014 to 2018 regulatory control period.[13]

In our opinion, a benchmark efficient entity with similar risk as that which applies to TransGrid is a pure-play regulated transmission network service provider (TNSP) operating within Australia. Such an entity would issue debt with the following characteristics:

[8] The rules, 6A.6.2(h)

[9] The rules, 6A.6.2.(c)

[10] The rules, 6A.6.2(j)

[11] The rules, 6A.6.2(k)(1)

[12] The rules, 6A.6.2(k)(4)

[13] See; NERA, *Return on Capital of a Regulated Electricity Network*, May 2014; and TransGrid, Revenue Proposal, 2014/15 to 2018/19, May 2014, page 178.

- Australian corporate debt;
- a benchmark credit rating of BBB+; and
- a term at issuance of 10 years.

For the purpose of estimating the yield on debt with the abovementioned characteristics, we recommend using a third party data source. There are two potential data series available, ie:

- the non-financial corporate bond yields for 10 year BBB rated corporate debt published by the Reserve Bank of Australia (the RBA curve); and
- the Bloomberg broad-BBB rated 7 year BVAL curve (the BVAL curve).

We recommend that, in years where BVAL daily estimates are not available for the entire year, the annualised debt yield is calculated by extrapolating the RBA curve so as better to reflect a 10 year estimate, and then averaging the month-end estimates of the debt yield in that particular year.

In years where daily estimates of the BVAL curve are available for the complete year, we recommend the annualised debt yield is calculated in a manner consistent with that in the draft decision, ie, as the arithmetic average of:

- the RBA curve – extrapolated better to reflect a 10 year estimate and interpolated to provide daily estimates; and
- the BVAL curve – extrapolated to 10 years.

Further, the trailing average debt yield should be updated annually:

- to include updated annual observations of the debt yield in the RBA curve and the BVAL curve; and
- to remove the oldest annual observation.

Table 1 includes the annual debt yield observations used to calculate our recommended return on debt allowance for the 2014/15 year.

Table 1 RBA Aggregate Measures of Australian non-financial corporate bonds (adjusted 10 year BBB yields)

Calendar Year	Annualised Debt Yield
2005	6.50%
2006	6.94%
2007	8.12%
2008	10.60%
2009	10.14%
2010	8.09%
2011	8.03%
2012*	6.99%
2013*	7.11%
31 Jan 2014 to 30 June 2014*	6.67%
Average	**7.92%**

**Estimated using both the Bloomberg curve and the RBA curve*

2.2 Approach to the return on debt in the draft decision

In this section, we describe our understanding of the approach to estimating the return on debt allowance in the AER's draft decision by:

- describing aspects of the approach in the draft decision that are consistent with our recommended approach; and
- highlighting those aspects for which our recommended approach differs from that in the draft decision.

2.2.1 Points of agreement

Our recommended approach and that described in the draft decision are consistent in that both approaches use:[14]

- a 'trailing average portfolio approach' – that is, to estimate the average return that would have been required by debt investors in a benchmark efficient entity if it raised debt over an historical period prior to the commencement of a regulatory year in the regulatory control period;
- a benchmark credit rating of BBB+;
- a benchmark term of debt of 10 years;
- an independent third party data series to estimate the return on debt

In addition, our recommended definition of a benchmark efficient entity with similar risk as that which applies to TransGrid and the definition set out in the draft decision are similar in some respects, ie, both approaches

[14] AER, *Draft Decision TransGrid Transmission Determination 2015-16 to 2017-18*, Attachment 3: Rate of Return, November 2014, page 3-23.

define the benchmark as a pure play regulated energy network business operating within Australia.[15] Our contention is that:

- there is more than one efficient financing practice; however
- if there is only one efficient debt financing strategy, it should be one that is technically feasible, or attainable by the regulated businesses since to do otherwise would be nonsensical.

These elements of the AER's definition of a benchmark efficient entity with similar risk as that which applies to TransGrid have material implications for the methodology used to calculate the return on debt allowance, which we explain in section 3.2.

2.2.2 Areas of contention

The principal differences between our recommended approach to estimating the return on debt and that adopted by the AER's arise from its draft decision:

- to impose a transition to the trailing average approach; and
- to use two third party data sources to calculate the annualised debt yield, ie:
  - the RBA broad-BBB rated 10 year curve; and
  - where available, the Bloomberg broad-BBB rated 7 year BVAL curve (the BVAL curve), otherwise, the Bloomberg broad-BBB rated 5 year BVAL curve.

Trailing average

We recommend that the return on debt allowance for TransGrid is calculated by immediately adopting the trailing average approach whereas, in contrast, the AER's draft decision adopts a transition whereby, over a ten year period:[16]

- the trailing average approach is adopted progressively; and
- the on-the-day approach is progressively phased out.

The genesis of the draft decision to impose such a transition on TransGrid is the AER's proposition that a benchmark efficient entity with similar risk as that which applies to TransGrid would, under the previous, on-the-day approach:[17]

- periodically issue floating rate corporate debt prior to a regulatory control period; and
- at the time the risk free rate was set for the next regulatory control period, enter 'pay fixed – receive floating' swap contracts to hedge its exposure to the risk free rate for that regulatory control period.

Consequently, the AER takes the view that, if the trailing average approach were to be adopted immediately, TransGrid would capture windfall gains. On this basis, the AER purports that it is appropriate to impose a transition to the trailing average approach to mitigate those windfall gains.

By contrast, in our opinion a benchmark efficient entity with similar risk as that which applies to TransGrid would not hedge its exposure to the risk free rate but, instead, would periodically issue fixed rate debt.[18] It

[15] AER, *Draft Decision TransGrid Transmission Determination 2015-16 to 2017-18*, Attachment 3: Rate of Return, November 2014, page 3-21.

[16] AER, *Draft Decision TransGrid Transmission Determination 2015-16 to 2017-18*, Attachment 3: Rate of Return, November 2014, page 3-288 and 3-289

[17] We refer to this debt financing strategy herein as the 'on-the-day' approach.

[18] e refer to this debt financing strategy herein the 'trailing average' approach

follows that a benchmark efficient entity with similar risk as that which applies to TransGrid would already adopt the debt financing practice that the AER now considers to be efficient, and so no transition is required.

Further, imposing a transition to the trailing average approach, rather than adopting it immediately, would cause a benchmark efficient entity with similar risk as that which applies to TransGrid to incur a material windfall loss and delay unnecessarily the alignment of the return on debt allowance with the efficient financing costs of a benchmark efficient entity.

In section 3 we explain the reasons why a benchmark efficient entity would have already adopted a trailing average approach and so there is no need for an allowance that reflects a transition towards it, and respond to the contrary reasoning presented in the AER's draft decision.

The use of Bloomberg data

The draft decision applies a simple average of two data sources, being:

- the RBA broad BBB rated 10 year curve (the RBA curve) – extrapolated to better reflect a 10 year estimate and interpolated to produce daily estimates; and
- the Bloomberg, broad BBB rated 7 year BVAL curve (the BVAL curve) – extrapolated to 10 years.

We note that the AER would use an extrapolated broad BBB rated 5 year BVAL curve in circumstances where the 7 year BVAL curve is not available. However, as discussed in section 4.1, in our opinion an extrapolated 5 year BBB BVAL provides substantially less insight into the likely yield on benchmark debt. Consequently, where the 7 year BVAL curve is unavailable, we have relied solely on the RBA curve.[19]

We note that the 7 year BVAL curve has missing data, particularly in the 25 October 2010 to 1 February 2011 period. In years where the 7 year BVAL curve contains complete data, we recommend the annual debt yield is calculated using the approach in the draft decision, ie, using the RBA curve and the 7 year BVAL curve.

[19] Further, we note that, at this point in time, the AER has undertaken no analysis of the merits of using an extrapolated 5 year BVAL curve to estimate yield on benchmark debt.

3. Transition to a Trailing Average

In this section we explain the reasons why a benchmark efficient entity would have already adopted a trailing average approach and so there is no need for an allowance that reflects a transition towards it, and respond to the contrary reasoning presented in the AER's draft decision.

3.1 Background

3.1.1 National Electricity rules

The NEO forms a foundational reference point for decisions made by regulators under the National Electricity Law and its accompanying rules. The NEO states that:[20]

> The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system..

The rules ensure that the allowed rate of return, and so its cost of debt component, contribute to the achievement of the NEO by requiring the rate of return to be estimated such that it contributes to the allowed rate of return objective. The allowed rate of return objective is:[21]

> … that the rate of return for a Transmission Network Service Provider is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the Transmission Network Service Provider in respect of the provision of prescribed transmission services

Setting the allowed rate of return by reference to the efficient financing costs of a benchmark efficient entity provides incentives to improve efficiency by allowing a network business:

- to derive financial benefits by outperforming the debt financing costs of a benchmark efficient entity with similar risk, ie, by reducing its cost of debt below that of a benchmark efficient entity; and
- correspondingly, to be penalised if it underperforms relative to the debt financing costs of a benchmark efficient entity with similar risk, ie, its cost of debt rises above that of a benchmark efficient entity.

It follows that setting the allowance for the cost of debt such that it achieves the allowed rate of return objective will:

- provide assurance to investors that they will derive a return on investment commensurate with those of a similar degree of risk, which encourages ongoing investment in transmission network infrastructure and so promotes investment in electricity services and the long term interests of consumers of electricity services;
- prevent investors from deriving excessive rates of return, which promotes the efficient operation and use of electricity services.

It follows that setting the cost of debt commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to a particular network business, and so achieving the allowed rate of return, has direct implications as to the achievement of the NEO.

The allowed rate of return objective is clear that the benchmark efficient entity referred to in the allowed rate of return objective should be defined by reference to a particular network business, ie, it makes explicit

[20] Section 7, National Electricity Law

[21] The rules, 6A.6.2(c) and 6A.6.2(h)

reference to a benchmark efficient entity with similar risk as that which applies to *the transmission network service provider.* Further, the rules provide scope for the regulator to improve the achievement of the allowed rate of return objective by allowing it to adopt more than one definition of a benchmark efficient entity.

Indeed, this was the intention of the AEMC when drafting the rules, when it stated in the final rule determination that:

> The allowed rate of return objective incorporates the concept of a benchmark efficient service provider, which means that the regulator can conclude that the risk characteristics of the benchmark efficient service provider are not the same for all service providers across electricity transmission, electricity distribution and gas and/or within those sectors. [22]
>
> The best methodology for estimating return on debt may not be the same for benchmark efficient service providers with different characteristics.[23]
>
> The Commission intends that the regulator could adopt more than one approach to estimating the return on debt having regard to different risk characteristics of benchmark efficient service providers.[24]
>
> … a one-size-fits-all approach to setting a benchmark should not be considered a default position.[25]

3.1.2 Definition of the benchmark entity and the need for a transition

Prior to the 2014 to 2018 regulatory control period the AER determined the cost of debt allowance using an on-the-day approach. However, in the draft decision the AER concludes that:[26]

> … the trailing average portfolio approach is preferable because it would result in a return on debt that better contributes to the achievement of the allowed rate of return objective.

This conclusion necessitates changing the methodology used to determine the return on debt allowance from an on-the-day approach to a trailing average approach.

The draft decision to derive the return on debt allowance by means of ten year transition to a trailing average approach is predicated on the AER's specification of a benchmark efficient entity with similar risk as that which applies to TransGrid and, in particular, the efficient debt financing practice of that benchmark under the previous on-the-day approach.

However, in our opinion the AER's definition of a benchmark efficient entity with similar risk as that which applies to TransGrid is incorrect. Consequently, its decision to impose a transition to the trailing average approach, rather than adopting it immediately is also incorrect.

3.1.3 Recommended definition of the benchmark

In our opinion, the efficient debt financing practice of a benchmark entity with similar risk as that which applies to TransGrid would be periodically to issue long term, fixed rate corporate debt, to which we refer to herein as the 'trailing average approach'. In our opinion, the adoption of such a trailing average approach in the derivation of the return on debt element of the rate of return would:

[22] AEMC, Economic Regulation of Network Service Providers Rule change, Final rule determination, 29 November 2012, page 67.

[23] AEMC, Economic Regulation of Network Service Providers Rule change, Final rule determination, 29 November 2012, page 72.

[24] AEMC, Economic Regulation of Network Service Providers Rule change, Final rule determination, 29 November 2012, page 90.

[25] AEMC, Economic Regulation of Network Service Providers Rule change, Final rule determination, 29 November 2012, page 86.

[26] AER, *Draft Decision TransGrid Transmission Determination 2015-16 to 2017-18*, Attachment 3: Rate of Return, November 2014, page 3-107.

- encourage a benchmark efficient entity to issue long-term debt, thereby minimising the refinancing risk associated with investing in long-lived assets;
- provide an incentive for a benchmark efficient entity to minimise its entire cost of debt (rather than one or other of its components);
- offer a benchmark efficient entity with a staggered debt portfolio a reasonable opportunity to recover at least its efficient debt financing costs; and
- ensure that movements in the market return on debt from year to year are reflected in the return on debt allowance, thereby minimising interest rate risk.

Further, for the reasons we explain in section 3.2, the efficient debt financing practice of a benchmark efficient entity with similar risk as that which applies to TransGrid would be to adopt the trailing average approach, even when faced with a return on debt allowance that is set by the on-the-day approach.

Consequently, we recommend that the return on debt allowance for the 2014 to 2018 regulatory control period is determined by adopting the trailing average approach immediately, rather than by means of transition.

3.1.4 The AER's definition of the benchmark

In contrast to our recommended approach, the draft decision does not immediately adopt the trailing average approach. Instead, the draft decision sets a return on debt allowance as if the debt financing practice of a benchmark efficient entity was moved to the trailing average approach by means of a gradual transition from the current, 'on-the-day' return on debt allowance over a period of 10 years.

The AER's decision to impose such a transition is predicated on the basis that, under the previous on-the-day approach, a benchmark efficient entity with similar risk as that which applies to TransGrid would adopt a 'hedged trailing average approach' by:

- periodically issuing floating rate corporate debt prior to the regulatory determination; and
- at the time that the risk-free rate was set for the next regulatory control period, entering into floating-to-fixed swap contracts to hedge interest exposure for the duration of the next regulatory period.

It follows that the AER's definition of a benchmark efficient entity with similar risk as that which applies to TransGrid, and so the efficient debt financing practices of that benchmark entity under the previous on-the-day approach, differs from our recommended definition, NERA's recommended definition and the definition adopted by TransGrid in its revenue proposal.

3.2 Errors in the AER's definition of a benchmark efficient entity

In this section we explain that the transition imposed on TransGrid by the AER is incorrect because:

- the foundation of the AER's analysis of the efficient debt financing practice of a benchmark efficient entity is incorrect;
- it would be efficient for a benchmark efficient entity with similar risk as TransGrid not to adopt the hedged trailing average approach when faced with a return on debt allowance that is determined by way of the on-the-day approach; and
- entering swap agreements to hedge the interest rate risk will eliminate the natural hedge that exists between the debt risk premium and the risk free rate, and may unnecessarily expose a business to volatility in the debt risk premium.

Each of these contentions gives weight to the conclusion that it is unsafe to assume that, when faced with the on-the-day approach, the efficient debt financing practice of a benchmark efficient entity with similar risk as that which applies to TransGrid is necessarily to adopt the hedged trailing average approach. Rather, it

would be entirely reasonable, and efficient, for a benchmark efficient entity with similar risk as that which applies to TransGrid:

- not to manage interest rate risk by entering swap agreements; and
- instead, to seek to minimise its cost of debt and manage refinancing risk by adopting the trailing average approach.

Consequently, in our opinion it is incorrect to impose on TransGrid a transition to the trailing average approach. We recommend that the return on debt allowance for TransGrid be set by applying the trailing average approach immediately.

3.2.1 The objectives assumed by the AER are incompatible

The AER states that, in the context of the allowed rate of return objective, the efficient debt financing costs of a benchmark efficient entity for a particular service provider will be those that:

> … are expected to minimise its debt financing costs over the life of its assets, while managing refinancing risk and interest rate risk. Those risks can be defined as:
>
> - Refinancing risk— is the risk that the benchmark efficient entity would not be able to efficiently finance its debt at a given point in time. This maybe because the debt instruments that it seeks are not available to it, or because they are expensive.
> - Interest rate risk— is the risk resulting from a potential mismatch between the allowed return on debt and the actual return on debt of a benchmark efficient entity.

In other words, the principal objective of the benchmark efficient entity, as relevant to debt financing, is to minimise the cost of debt while managing refinancing risk and interest rate risk.

In our opinion, it is difficult reconcile the objective to mitigate interest rate risk with a desire to either minimise refinancing risk or minimise debt financing costs. To mitigate interest rate risk where the allowed return on debt is set by reference to yields prevailing in the period immediately prior to a regulatory decision, a benchmark efficient business must either:

- issue all, or a substantial portion, of its debt in the period that the allowed return on debt is set; or
- implement the hedged trailing average approach, whereby the network business has a debt portfolio with staggered maturity dates and uses swap transactions to hedge interest rate exposure for the duration of a regulatory control period.

A network that pursues the first strategy, ie, issuing debt during the period that the allowed cost of debt is set, would offset almost all its interest rate risk. However, the AER has correctly concluded that:[27]

> … raising the entirety of its debt once for every regulatory control period would expose the benchmark efficient entity to substantial refinancing risk.

The alternative strategy would allow a benchmark efficient entity to address both its refinancing risk and mitigate some of its interest rate risk. However, under this strategy the benchmark efficient network would have no incentive, or ability, to minimise its cost of debt.

A network business that issues floating rate debt and uses floating-to-fixed interest rate swaps at the time the return on debt allowance is set, no longer has an incentive to minimise the total cost of debt. Rather, the entity would seek to minimise only the DRP element of its debt costs, since it retains the residual risk for differences between the allowed DRP and its trailing average DRP.

In other words, an entity committed to this strategy would prefer debt with a total yield of 7.0 per cent if the DRP was 100 basis points as compared to debt with a yield of 6.5 per cent if the DRP was 120 basis points.

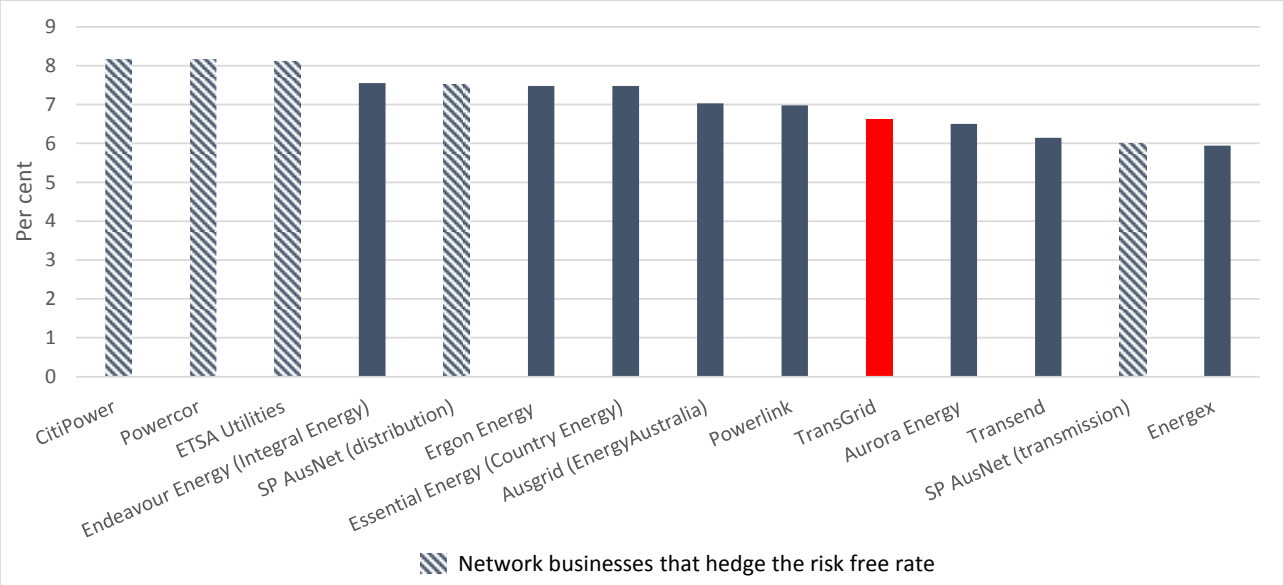
[27] AER, *Better Regulation | Explanatory Statement | Rate of Return guideline*, December 2013, page 153.

Consequently, the entity would seek to issue debt in a manner that minimises its DRP. This is inconsistent with the AER's stated objective that a benchmark efficient entity would seek to "minimise its debt financing costs over the life of its assets".

In contrast, an entity that issues fixed rate debt would always pursue debt with the lowest yield. Given these different objectives it is not surprising to observe that (see Figure 1):

- network service providers that issue fixed rate debt, such as TransGrid and NSW Networks, have on average the lowest costs of debt; while
- privately-owned network service providers that issue floating note debt and hedge, such as CitiPower, Powercor and SA Power Networks (formerly known as ETSA Utilities), have the highest debt costs.

Figure 1 Average actual cost of debt for the five most recent years available in 2013[28]



Indeed, Figure 1 illustrates that:

- the three network service providers with the highest average actual debt costs are privately-owned network service providers that adopt a hedged trailing average approach, ie, CitiPower, Powercor and SA Power Networks (formally known as ETSA Utilities); and
- of the nine network service providers with the lowest average cost of debt, only one adopts a hedged trailing average approach, ie, SP AusNet (transmission).

Figure 1 also shows that TransGrid has been effective at minimising the cost of debt relative to other service providers, with the fifth lowest average cost of debt. In our opinion, the foundation of the analysis underpinning the AER's definition of the benchmark is flawed, ie, a benchmark can pursue only one of two potential strategies, ie:

- to minimise the total cost of debt and manage refinancing risk; or
- to minimise the DRP while managing interest rate and refinancing risks.

Importantly, this conclusion has implications for the debt financing practices of a benchmark efficient entity under the on-the-day approach, because it forms the basis of why it would be efficient for a benchmark entity

[28] Data sourced from Productivity Commission, *Electricity Network Regulatory Frameworks*, Inquiry Report, Volume 1, April 2013, page 208.

in these circumstances to pursue objectives other than managing refinancing risk by entering swap agreements.

3.2.2 Size distorts the decision to hedge interest rate exposure

The rules require the allowed rate of return to be:

> … commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the Transmission Network Service Provider

However, the benchmark efficient entity hypothesised by the AER faces a materially different level of risk as that which applies to TransGrid. In particular, the size of TransGrid's debt portfolio is such that a benchmark efficient entity with similar risk would require a significantly longer period to hedge its interest rate exposure, as compared to that required by a benchmark efficient entity with a smaller debt portfolio and facing the averaging period allowed by the AER. Therefore, for the same cost, the benefits of hedging interest exposure that can be realised by a benchmark efficient entity with similar risk as TransGrid are materially less than those that can be realised by a benchmark efficient entity with a smaller debt portfolio. This is because the latter is in a position to achieve a better match with the risk free rate in a regulatory decision.

It follows that the refinancing risks faced by TransGrid are materially different from that faced by the benchmark efficient entity adopted by the AER, which is able efficiently to hedge its interest rate exposure at the time of a regulatory decision.

The relevance of size to refinancing risk was recognised in SFG's report to the AEMC. SFG analysed the debt financing practices of regulated energy networks and found that they differ according to:

> The size of the business: small to medium sized businesses can make use of interest rate swap contracts, whereas the swap market may not have sufficient depth to accommodate the requirements of very large businesses

Further, SFG recognised that some network businesses were likely to be too large to lock in interest rates using swap contracts, ie:

> A number of submissions have indicated that some businesses are simply too large to lock in interest rates using swap contracts – the swaps market does not have sufficient depth to accommodate the volume that would be required by businesses with large amounts of debt funding. Moreover, since each determination generally applies to a number of businesses, having multiple businesses seeking to access the swap market over the same (or very similar) short period acts to exacerbate the potential inadequacy of the swap market.'

Indeed, the size of TransGrid's capital base is such that the amount of debt it would have to hedge is materially larger than that of some smaller network businesses, ie, TransGrid's debt portfolio is between two and eight times greater than the small to medium network businesses that submitted to the AER that they enter swap agreements.[29]

Further, TransGrid would be required to access the swap market at substantially the same time as

- Ausgrid (distribution), with an estimated RAB at 1 July 2014 of $12,536 million;

[29] See:

- AER, AER, TransGrid Transend: Transitional transmission decision 2014-15, March 2014, page 53;
- AER, South Australia distribution determination 2010–11 to 2014–15, Final Decision, May 2010,page 38;
- AER, SP AusNet transmission determination 2008-09 to 2013-14, Final Decision, January 2008, page 43;
- AER, Victorian electricity distribution network service providers Distribution determination 2011–2015, October 2010, page 464; and
- AER, TransGrid Transend: Transitional transmission decision 2014-15, March 2014, page 53.

- Ausgrid (transmission), with an estimated RAB at 1 July 2014 of $2,109million;
- Endeavour Energy, with an estimated RAB at 1 July 2014 of $7,067 million;
- Essential Energy, with an estimated RAB at 1 July 2014 of $6,888 million;
- Transend, with an estimated RAB at 1 July 2014 of $1,417 million; and
- ActewAGL (Distribution), with an estimated RAB at 1July 2014 of $855 million.

It follows that, on the basis that these entities adopt the approach determined by the AER, at the same time that TransGrid would need to enter floating-to-fixed interest rate swaps agreements, the demand for swaps would be $22 billion. We also note that, at the time of the 2009 decision, the demand for floating-to-fixed swaps was in the order of $13.3 billion.[30]

It is unlikely that the Australian swap market would be able to accommodate transactions of this total volume, either at all, or without substantial adverse price effects. Consistent with this conclusion, Westpac considers that:[31]

> … in order not to distort the market and impact pricing, the maximum notional amount of 5yr IRS, is $300m per day.

On the basis that the liquidity in the 5 year IRS market is not more than $300 million per day before prices are adversely affected, these businesses would take considerably longer than the 40 day maximum averaging period to enter swap agreements to hedge their interest rate exposure.

Evidence from UBS

UBS assess the ability of network businesses to hedge their notional debt for the 2009 to 2014 regulatory control period and, to this end, notes that:[32]

- the median standard transaction size for interest rate and cross currency swaps in January 2009 was A$50m;
- on the assumption that swap outstandings are a reasonable proxy for swap turnover for a particular maturity, the AFMA measured daily turnover for interest rate swaps for terms of 5 years or greater in 2009 was in the order of $862m; and
- the total notional debt of network businesses that would be subject to a determination at that time was approximately $13.3 billion.

On this basis, UBS considers it reasonable to assume that, in 2009, the network businesses could have transacted up to $200m of fixed rate interest rate swaps each business day. Consequently, UBS finds that:[33]

> … the total notional debt amount may have been hedged in 91 business days. We regard that as an aggressive assumption in the context of a median transaction size of $50m and daily market turnover of $862m at that time.

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[30] See:

- AER, *Final decision - NSW Distribution determination 2009-10 to 2013-14, 28 April 2009*, pages xviii, xix and xxi;
- AER, *Final decision - TransGrid transmission determination 2009-10 to 2013-14*, 28 April 2009, page ix;
- AER, *Final decision - Australian Capital Territory distribution determination 2009–10 to 2013–14*, 28 April 2009, page xiii; and
- AER, *Final decision - Transend transmission determination 2009–10 to 2013–14*, 28 April 2009, page xi.

[31] Westpac, *Letter to Tony Meehan entitled Liquidity of the interest rate swap market*, dated 26 May 2014.

[32] UBS, *UBS response to the TransGrid request for interest rate risk analysis following the AER draft decision of November 2014*, January, page 2.

[33] UBS, *UBS response to the TransGrid request for interest rate risk analysis following the AER draft decision of November 2014*, January, page 2.

With reference to the estimated 91 business days required to hedge the interest rate, UBS analyses the quantum of risk associated with hedging outside of the 15 to 20 day averaging period in 2008, as determined by the Australian Competition Tribunal and used by the AER. UBS calculates that, if all service providers hedged the maximum amount possible per day, ie, $200m, for 15 days, there would remain $15.3 billion to be hedged over a 76 day period.

UBS then considers the quantum of risk associated with fixed rate risk outside of the averaging period on the same basis used to measure credit risk for a counterparty, ie, on a two standard deviation basis. UBS finds that:[34]

> A partial hedge may have been achievable, but it would also have exposed the NSW service providers to potential risk of $819 million and TransGrid specifically, to risk of $157 million. No compensation was made available to cover risk outside of the averaging period. The low risk alternative was to adopt a trailing average hedge strategy.

On the basis of its analysis, UBS concludes that:[35]

> … a decision to hedge a component of the cost of debt calculation by using interest rate swaps in 2008/2009 would not have been achievable for NSW service providers over the 15 - 20 day period set by the Australian Competition Tribunal and implemented by the AER. The maximum averaging period of 40 days – while not implemented – would still not have been sufficient to hedge the fixed rate risk component of the cost of debt determination. Interest rate swap liquidity at the time was uncertain at best.

UBS also highlights that in the draft decision the AER draws conclusions as to the liquidity of the swap market and the ability of NSW network businesses to enter swap arrangements by reference to the 'Australian OTC Derivatives Market Activity' report prepared by the RBA in 2012. However, in regard to the 'Australian OTC Derivatives Market Activity' report UBS notes that:[36]

> We see no relevance in this document as a measure of market liquidity for either the 2009 or 2014 determination. The UBS analysis – by way of contrast - has been based on AFMA data in 2009 in order to review liquidity and the ability to hedge risk at that time.

Relevantly, UBS also notes that it regards:[37]

> …a daily hedge requirement of $300m for a term of 10 years for the 2014-2019 determination as a highly aggressive assumption.

In other words, assuming it is possible for network businesses to hedge $300m of debt for the 2014 determination is highly conservative from the perspective of TransGrid.

Evidence from the Australian Office of Financial Management

It is instructive at this point to highlight that we agree with the AER and Dr Lally that a benchmark efficient entity with similar risk as TransGrid could require a significantly longer period to hedge its interest rate exposure, as compared with that required by smaller network businesses.

[34] UBS, *UBS response to the TransGrid request for interest rate risk analysis following the AER draft decision of November 2014*, January, page 4.

[35] UBS, *UBS response to the TransGrid request for interest rate risk analysis following the AER draft decision of November 2014*, January, page 4.

[36] UBS, *UBS response to the TransGrid request for interest rate risk analysis following the AER draft decision of November 2014*, January, page 3.

[37] UBS, *UBS response to the TransGrid request for interest rate risk analysis following the AER draft decision of November 2014*, January, page 4.

This conclusion is given weight by the experience of the Australian Office of Financial Management (AOFM) in the Australian swap market. The AOFM is primarily responsible for:

- managing the Australian government's debt portfolio;
- managing the Australian government's overall cash balance in the Official Public Account (OPA); and
- any investment in financial assets arising from these activities or as a result of any specific policy mandate from the Australian government.

The AOFM commenced a program to close its remaining domestic interest rate swap agreements in November 2008, which is approximately the time at which the AER purports that a benchmark efficient entity with similar risk as TransGrid would be entering swap agreements to hedge its interest exposure for the 2009 to 2014 regulatory control period. At that time, the AOFM's domestic interest rate swap agreements were to receive fixed and pay floating rates, and comprised 177 swaps with a notional face value of $20.65 billion. The AOFM stated that:[38]

> The program was largely completed by May 2009, when the AOFM stopped actively seeking terminations. In total, 130 swaps were unwound (by paying fixed / receiving floating rates) representing a notional face value of $15.25 billion. The tenor of these swaps ranged from 0.18 years to 8.25 years, with an average of around 4 years.

Therefore, it took the AOFM approximately six months to close $15 billion of swap agreements. Relevantly, the AOFM also offered the following general observations in regard to these transactions, ie:[39]

> - Despite the wide spread of maturities, market liquidity could best be described as 'thin' during the onset and immediate aftermath of the financial crisis; and
> - Executing the swaps in a significantly shorter time period would, in our view, have been problematic.

For the purpose of drawing comparisons with the circumstances of a benchmark efficient entity with similar risk as TransGrid, it is relevant to note that it is more difficult to close swap agreements, as compared with entering new ones. However, in 2009:

- the swap agreements closed by the AOFM were of varying tenor, rather than being concentrated in a particular tenor, eg, 5 years;
- the AOFM took approximately six months to close $15 billion of swaps, whereas the benchmark efficient entity with similar risk as TransGrid and the other network businesses entering the swap market at substantially the same time would demand $13.3 billion of swaps; and
- the majority of the swaps closed by AOFM related to a significantly more liquid part of the swap market, ie, we understand that the vast majority of swap agreements in Australia relate to maturities of 1 to 3 years[40] and that swap agreements with a tenor of 5 years or more are considerably more rare.

AOFM's experience in the swap market gives weight to our conclusion that it is unsafe to assume that a benchmark efficient entity with similar risk as TransGrid would enter swap agreements to hedge its interest rate exposure. In particular, a benchmark efficient entity with similar risk as TransGrid:

- would have to swap a debt portfolio two to eight times larger than network businesses that do routinely enter the swap market;
- would enter the swap market at a time when the combined demand for swaps from network businesses alone would be $13.3 billion;

[38] Australian Office of Financial Management, *Letter to NSW Treasury Corporation*, 5 January 2015, page 1.

[39] Australian Office of Financial Management, *Letter to NSW Treasury Corporation*, 5 January 2015, page 1.

[40] Swaps agreements with maturities of one to three years are considerably more liquid because of mortgage and corporate borrowers hedging interest exposure.

- would take significantly longer to hedge its debt portfolio, as compared with a benchmark efficient entity that can hedge its debt portfolio over a short period, ie, within the averaging period allowed by the AER.
- would derive materially less benefits from entering swap agreements due to the imperfect nature of the hedge it is likely to achieve.

It follows that, even if we accept Dr Lally's analysis, the costs and benefits associated with entering swap agreements for a benchmark efficient entity with similar risk as TransGrid are materially different from those of a benchmark efficient entity that is able to hedge its interest exposure over a much shorter period.

On the basis of AOFM's experience in seeking to cancel $15 billion of swap agreements of various tenors, we conclude that it is likely that it would have taken a network businesses seeking to enter the swap market in the order of 6 months to swap $13.3 billion of 5 year floating to fixed swaps at the time of TransGrid's 2009 decision.

In other words, a benchmark efficient entity with similar risk as TransGrid would not be able to enter sufficient swap agreements during the allowed averaging period and so would derive a much smaller benefit from hedging the risk free rate, as compared with a benchmark efficient business that can hedge its interest exposure over a much shorter period.

It follows that, when confronted with a decision as to whether or not to enter swap agreements, a benchmark efficient entity with similar risk as TransGrid would face a materially different menu of costs and benefits, as compared with a benchmark efficient business that is able to hedge its interest exposure over a much shorter period.

Consequently, in our opinion it is unsafe to assume that the risks faced by a benchmark efficient entity with similar risk as TransGrid are the same as the benchmark efficient entity adopted by the AER. Further, it is incorrect to conclude that, under the on-the-day approach, the only efficient debt financing practice of a benchmark efficient entity with similar risk as TransGrid is to adopt the hedged trailing average approach. Indeed, it is entirely reasonable that, in these circumstances, a benchmark efficient entity with similar risk as TransGrid would not pursue an objective of mitigating interest rate risk and, instead, would endeavour to minimise the cost of debt and manage refinancing risk by adopting the trailing average approach.

3.2.3 The natural hedge between the risk free rate and DRP

We explain in section 3.2.1 that the debt financing objectives of the benchmark efficient entity as presumed by the AER are incorrect. Notwithstanding, even if the AER's proposition that a benchmark efficient entity with similar risk as that which apply to TransGrid would endeavour only to mitigate its interest rate risk were to be accepted, it may not choose to hedge the risk free rate.

A benchmark efficient entity that endeavours to mitigate interest rate risk may opt not to hedge the risk free rate at all because doing so would eliminate the natural hedge that exists between the risk free rate and the debt risk premium. This natural hedge arises from the negative correlation that exists between the risk free rate and the debt risk premium.

The AEMC engaged SFG to advise on matters relating to the return on debt allowance as part of the 2012 rule change and, in this regard SFG explained that:[41]

> … there is a strong negative correlation between government bond yields and the DRP. During periods of financial market crisis, a flight-to-quality occurs with funds moving out of risky assets and into government bonds. This has the dual effect of reducing government bond yields and increasing the DRP. In such circumstances, all financial risk premiums are at elevated levels, including the DRP however it is measured. During periods of strong economic growth, these

[41] SFG, Rule change proposals relating to the debt component of the regulated rate of return, Report to the AEMC, 21 August 2012, page, 43.

> effects are reversed – government bond yields tend to be relatively high and risk premiums in financial markets are low.

In addition to the intuitive nature of this correlation, as explained by SFG, our review of academic studies identified a large body of empirical literature that substantiates the negative correlation between the debt risk premium and the risk free rate. We summarise such studies below.

Longstaff and Schwartz (1995) develop a simple approach to valuing risky corporate debt that allows for both default risk and interest rate risk. Longstaff and Schwartz use Moody's corporate bond yield averages for the 1977 to 1992 period and the corresponding yields of 10 year and 30 year Treasury bonds to examine whether the theoretical predictions of their model are consistent with the actual properties of credit spreads. They conclude that: [42]

> As implied by the model, we find that credit spreads are strongly negatively related to the level of interest rates.

Duffee (1998) examines the relationship between yields on non-callable Treasury bonds and the credit spread, or debt risk premium, of corporate bonds using monthly bond index yield data from Lehman Brothers for the period January 1985 to March 1995 and find:[43]

> … a modest negative relation between Treasury yields and yield spread on noncall-able corporate bonds…[and that] the negative relationship is stronger for lower-rated noncallable bonds.

Further, Collin-Dugresene, Goldstein and Martin (2001) analyse monthly corporate bond yields from Lehman Brothers for the period July 1988 to December 1997 along with benchmark treasury rates and conclude that:[44]

> Consistent with the empirical findings of Longstaff and Schwartz (1995) and Duffee (1998), we find that an increase in the risk-free rate lowers the credit spread for all bonds. Furthermore, the sensitivity to interest rates increases monotonically across both leverage and rating groups.

Huang and Kong (2003) examine the determinants of credit spreads using Merrill Lynch option adjusted credit spread data from January 1997 through July 2002. Huang and Kong conduct separate ordinary least squares regressions for different sets of explanatory variables and find that the coefficient on the interest rate level is significantly negative at the 1 per cent level for high-yield credit spreads. However, the interest rate variables lack explanatory power for credit spreads on investment grade indexes. Huang and Kong explain that the negative coefficients on the interest rate variables:[45]

> … are consistent with intuition. High interest rates and steep yield curves are usually associated with expanding economy and low credit spreads.

Batten and Hogan (2003) analyse the relationship between the credit spread and the risk free rate using Australian denominated Eurobonds with underlying credit ratings of AAA, AA and A along with Australia government bonds for the period January 1995 to August 1998. Batten and Hogan apply the framework developed by Longstaff and Schwartz (1995) to analyse the relationship between the credit spread and risk free rate in three sub-periods and find:[46]

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[42] Longstaff, F. A. and Schwartz E. S., 1995, *A simple approach to valuing risky fixed and floating rate debt*, Journal of Finance, Volume L, number 3, page 791.

[43] Duffee, G. R., *The relation between treasury yields and corporate bond yield spreads,* Journal of Finance, volume LIII, number 6, page 2226.

[44] Collin-Dugresene, P., R. S. Goldstein and J. S Martin, 2001, *The determinants of a credit spread changes*, Journal of Finance, volume 57, no. 6, page 2185.

[45] Huang, J. and W. Kong, 2003, Explaining credit spread changes: New evidence from option-adjusted bond indexes, Journal of Derivatives, Fall 2003, page 9.

[46] Batten, A. B. and W. P. Hogan, Time variation in the credit spreads on Australian Eurobonds, Pacific-Basin Finance Journal,11, page 95.

> … support for a significant inverse relationship between changes in credit spreads and interest rates. The economic significance of these results was consistent with Longstaff and Schwartz (1995), Duffee (1998) and also Collin-Dufresne et al. (2001).

Lepone and Wong (2009) analyse the determinants of credit spread changes in the Australian market using Bond index levels and corresponding yields provided by Australian Financial Markets Association Services. Lepone and Wong find that:[47]

> All spreads across the credit rating spectrum… are negatively related to changes in the spot rate, consistent with theoretical predictions (Longstaff and Schwartz, 1995) and empirical findings of previous studies…

The explanatory power of Lepone and Wong's model for indexes with fewer securities, such as the BBB index or the longer term indexes, is weaker, which they note may be attributable to those indexes being more sensitive to idiosyncratic movements in the constituents. Therefore, one possible explanation is that the yields and spreads derived from these indexes are not completely explained by the broad market and macroeconomic variables used in the study.[48]

To summarise, both SFG and a large body of academic literature find evidence of a negative correlation between the debt risk premium and the risk free rate. A corollary of these findings is that a benchmark efficient entity seeking to manage interest rate risk may not necessarily choose to hedge the risk free element of the interest rate because doing so would eliminate the natural hedge that exists between the risk free rate and the debt risk premium. Eliminating this natural hedge would increase a benchmark efficient entity's exposure to movements in the debt risk premium and so the extent to which hedging mitigates interest rate risk would be reduced.

3.3 Analysis by the AER's expert

In its draft decision, the AER relies on advice prepared by Dr Martin Lally to inform its decision whether or not to apply transitional arrangements to the allowed cost of debt.[49] Dr Lally concludes that there are three arguments supporting the AER's proposed transitional regime for the allowed cost of debt, namely that it:

- avoids the problems with the availability of historical data;
- mitigates the windfall gains that businesses on average experience at the expense of their consumers, arising from the cost of debt shock induced by the global financial crisis (GFC); and
- produces results for individual businesses that are almost identical to those that would have prevailed had there been no regime change.

We address each of these arguments in the remainder of this section.

3.3.1 Availability of historical data

TransGrid proposed that its 10 year trailing average cost of debt be constructed using debt yield data published by the RBA. Table 2 sets out how the proposed trailing average is to be constructed. Consequently, for the 2014/15 financial year the allowed cost of debt would be calculated as the simple arithmetic average of the ten yields calculated below. In the 2015/16 financial year the allowed cost of debt

[47] Lepone, A. and B. Wong, 2009, *Determinants of Credit Spread Changes: Evidence from the Australian Bond Market*, The Australasian Accounting Business & Finance Journal, volume 3, number 2, 2009, page 32.

[48] Lepone, A. and B. Wong, 2009, *Determinants of Credit Spread Changes: Evidence from the Australian Bond Market*, The Australasian Accounting Business & Finance Journal, volume 3, number 2, 2009, page 34.

[49] Lally, M., *Transitional arrangements for the cost of debt,* dated 24 November 2014.

would be recalculated with the oldest yield (ie, the 2005 yield) dropping out of the trailing average and a new estimate from the 2014/15 year then included.[50]

Table 2: Data source(s) proposed for TransGrid's trailing average cost of debt

Trailing average	Data source
1	Arithmetic average of the 12 month end yields published by the RBA for the 2005 calendar year
2	Arithmetic average of the 12 month end yields published by the RBA for the 2006 calendar year
3	Arithmetic average of the 12 month end yields published by the RBA for the 2007 calendar year
4	Arithmetic average of the 12 month end yields published by the RBA for the 2008 calendar year
5	Arithmetic average of the 12 month end yields published by the RBA for the 2009 calendar year
6	Arithmetic average of the 12 month end yields published by the RBA for the 2010 calendar year
7	Arithmetic average of the 12 month end yields published by the RBA for the 2011 calendar year
8	Arithmetic average of the 12 month end yields published by the RBA for the 2012 calendar year
9	Arithmetic average of the 12 month end yields published by the RBA for the 2013 calendar year
10	Arithmetic average of the 6 month end yields published by the RBA for the months of January 2014 to June 2014

In section 4 of our report we recommend that, in its revised proposal, TransGrid calculate the trailing average in a manner that, as far as practicable, is consistent with the approach set out in the draft decision on the use of third party data providers. Consequently, TransGrid's revised proposal uses:

- for years 8 (2012), 9 (2013) and 10 (31 January to 30 June 2014) a simple average of the:
  - RBA curve extrapolated so as better to reflect a 10 year estimate; and
  - BVAL curve extrapolated to 10 years and
- for years 1 (2005) through 7 (2011), the RBA curve extrapolated so as better to reflect a 10 year estimate.

Under this approach, for three of the years the trailing average is using both data sources that the AER propose to use. For the remaining seven years we use just one of the data sources. Consequently, we conclude that there is no practical problem with immediately constructing a trailing average, especially in light of the comments in the draft decision that:

- neither curve is clearly superior to the other;[51] and

[50] We note that the draft decision incorrectly states that the immediate trailing average would require the use of a mixture of data series for different times since no third party data series that is available for the full 10 year historical period. However, as shown in Table 2, TransGrid proposes to construct a 10 year trailing average using a single data source, ie, the RBA data series.

[51] AER, *Draft Decision TransGrid Transmission Determination 2015-16 to 2017-18*, Attachment 3: Rate of Return, November 2014, page 3-139.

- the intention to use either the BVAL curve or the RBA curve "*if either curve becomes unavailable or produces erroneous estimates during the period.*"

3.3.2 Avoids a windfall gain due to the trailing average including the GFC

Dr Lally concludes that, if the AER was to adopt a return on debt allowance based on a trailing average immediately and in full, it would allow businesses to retain the windfall gain that business on average experienced, arising from the GFC-induced DRP shock at the time of the last regulatory reset.

The intuition underpinning Dr Lally's conclusion is that:[52]

> … the DRP spike arising from the GFC boosted the allowed revenues of regulated businesses relative to the costs actually incurred by them and this effect would have been gradually reversed had the old regime remained in place. However, if the AER switches to a trailing average regime for the DRP without a transitional process, these businesses will no longer experience the profit erosion, this would constitute a windfall benefit to the businesses, and it will come at the expense of their customers.

In other words, Dr Lally reasons that, in the last regulatory period the debt allowances of networks over-compensated them for their actual cost of debt and so, to avoid a windfall gain, the debt allowances in this regulatory period must be set below the benchmark efficient cost of debt. In our opinion, Dr Lally's methodology for assessing potential windfall gains is deeply flawed. Specifically, Dr Lally's conclusions that the allowed cost of debt in the 2014-19 period must be set below a benchmark efficient cost of debt is at odds with the requirements of the revenue and pricing principles that, in each regulatory period, allowances should set so as to enable a business to recover at least its expected efficient costs.

Dr Lally claims that his approach does not constitute a claw-back.[53] However, this is difficult to reconcile given that his analysis seeks to recoup potential over-compensation for the cost of debt that occurred in the 2009-14 regulatory control period.

In our opinion, determining the potential for windfall gain/loss is a forward looking assessment which, in these circumstances, is whether the allowed cost of debt set for the 2014/15 year over-/under-compensate a benchmark efficient business. In other words, if the benchmark efficient business:

- adopts a trailing average approach, ie, issues fixed rate debt, then the immediate adoption of a trailing average debt yield would avoid any potential windfall gains or losses; and
- adopts a hedged trailing average approach, ie, issues floating note debt and enters swaps agreements, then the immediate adoption of a trailing average DRP would avoid any potential windfall gains or losses.

Notwithstanding these fundamental concerns with Dr Lally's methodology, we also have identified a number of flaws in his analysis. First, we note that the analysis that underpins Dr Lally's conclusions, as set out in tables 2 and 3 of his report, is predicated on a number of simplifying assumptions, namely:[54]

- the DRP for all years the period prior to mid-2007 was 1.3%;
- the DRP during the 2008 to 2015 period rises above 1.3% due to the GFC and its after effects; and
- the DRP for all years post mid 2017 will be 1.3%.

Implicit in these assumptions is that, prior to 2007, networks were neither over- nor under-compensated for their debt costs. This is an unrealistic and misleading simplification. For example, for the 2004-09 regulatory control period, TransGrid was provided with a cost of debt allowance of 6.88 per cent and a DRP of 90 basis

[52] Lally, M., *Transitional arrangements for the cost of debt,* 24 November 2014, page 22.
[53] Lally, M., *Transitional arrangements for the cost of debt,* 24 November 2014, page 22.
[54] Lally, M., *Transitional arrangements for the cost of debt,* 24 November 2014, page 18.

points.[55] We note that, on the basis of the extrapolated RBA curve, over the January 2005 to June 2009 period the 10 year BBB yield averaged 8.33 per cent and the DRP averaged 267 basis points.

In other words, it is highly likely that the allowed cost of debt for the 2004-09 period under-compensated TransGrid for its benchmark efficient costs. It would follow that, on the basis of Dr Lally's analysis, to avoid a windfall loss from the under-recovery in the 2004-09 regulatory control period, TransGrid should have been allowed to over-recover its cost of debt in the 2009-14 period. However, this is not considered by Dr Lally, because his analysis assumes that there was no under- or over-recovery of debt costs prior to 2007.

In our opinion, if regard is to be had to past over- or under-recovery of debt costs, it should not be restricted to the events that occurred in the last regulatory control period and should at least go back to the start of economic regulation. That said, such an exercise is not appropriate under the current regulatory framework, because the AER allowed rate of return objective applies only in relation to the forthcoming regulatory period.[56]

To conclude, Dr Lally's analysis cannot be relied on to assess whether the immediate adoption of a trailing average (hedged or not) would result in a windfall gain or loss. Rather, a more fulsome examination of the extent of any windfall gains or losses, which also has regard to forward looking costs, shows that:

- the immediate adoption of a trailing average debt yield would avoid any potential windfall gains or losses arising if the benchmark efficient business issues fixed rate debt; while
- the immediate adoption of a trailing average DRP would avoid any potential windfall gains or losses if the benchmark efficient business issues floating rate debt and undertakes floating-to fixed rate swaps at the time of a decision.

In contrast, the AER's transitional arrangements do impose windfall gains and losses, irrespective of whether the benchmark business issues fixed or floating rate debt.

3.3.3 The transitional arrangements represent no change in the cost of debt regime

Dr Lally's third contention in support of the AER's transitional arrangement is that it produces results for individual businesses that are almost identical to those that would have prevailed had there been no regime change. We strongly disagree with this contention of Dr Lally.

Although the yield calculated in 2014/15 under the proposed transitional arrangements is similar to that which would have been calculated under the former regime, the implications of applying the transitional arrangements is to cause a significant change in the financial position of networks.

Under the old regime, the allowed cost of debt would generally either under- or over-compensate a benchmark efficient business that adopts a staggered debt portfolio (either hedged or not). It was accepted that the use of prevailing rates to set the allowed cost of debt would allow the business to recover its long run debt costs, even though in any particular period there could be a divergence between the cost of debt allowance and the trailing average debt costs (hedged or not). Further, under the former regime there was no retrospective adjustment for any divergence between the cost of debt allowance and the trailing average debt costs (hedged or not).

However, under the transitional arrangements, where a trailing average is to be systematically introduced, the future cost of debt allowance will trend towards the benchmark efficient cost of debt. In consequence, an under-recovery of debt costs in this regulatory period will not be balanced by an over-recovery in some future period. In other words, the transitional arrangements crystallise any windfall gains or losses resulting from differences between the prevailing yield and the trailing average (hedged or not).

[55] AER, NSW and ACT Transmission Network Revenue Cap: TransGrid 2004-05 to 2008-09, 27 April 2005, page 19.

[56] We note that in these circumstances the rate of return objective applies to the current regulatory period.

By way of example, if the prevailing rate is 200 basis points less than the trailing average cost of debt for a benchmark efficient business, then under the transitional arrangements:

- in the first year the business' allowed cost of debt would be 200 basis points below the benchmark efficient debt costs;
- in each subsequent year the business' allowed cost of debt would continue to be below the benchmark efficient debt costs, although as new debt costs are factored into the allowance the under-recovery decreases; and
- only when the transitional arrangements end (ie, 10 years after their introduction) would the business' allowed cost of debt match the expected benchmark efficient debt costs.

Consequently, if the prevailing debt yields are above or below the expected benchmark efficient debt costs, which are set by reference to a trailing average (either hedged or unhedged), it results in a windfall loss or gain for the business. It cannot therefore be said that the transitional arrangements, which crystallise windfall gains/losses, produce the same results as those that would occur if there was no regime change.

3.4 Principles of regulatory economics

In the previous sections, we have set out our analysis and associated conclusion that transitional arrangements are unnecessary for a benchmark efficient businesses. In this section we describe why the imposition of the proposed transitional arrangements are inconsistent with the evident intention of the AEMC when making the current rule, and are also contrary to good regulatory practice.

3.4.1 Intention of the AEMC rule change

The evident intention of the AEMC when making the current rule was that, when the methodology for setting the return on debt allowance changes from one period to the next, transitional arrangements would be provided to ensure the change could be implemented without imposing significant transition costs on service providers.

For example, the AEMC noted SFG's conclusion that:[57]

> Service providers are likely to have entered into financial arrangements to mitigate their risk given the current approach to estimating the return on debt. Therefore, any change in approach could lead to some service providers gaining extra revenue or losing revenue as a result of unwinding those financial arrangements. Gains or losses of revenue of this type from changes in regulatory arrangements could be perceived by investors as increasing regulatory risk, and thereby lead investors to seek a higher rate of return. SFG therefore recommend that consideration be given to transitional arrangements when changing the approach to estimating the return on debt.

Further, the AEMC's stated intention was that transitional arrangements were:[58]

> It may be possible in many circumstances for the method to estimate the return on debt to take such concerns into account in the design of the method. Therefore, this criterion was intended to promote consideration of concerns raised by service providers with regard to transitions from one methodology to another. Its purpose is to allow consideration of transitional strategies so that any significant costs and practical difficulties in moving from one approach to another is taken into account.

In other words, the transitional arrangements were intended to ensure that businesses were not unreasonably penalised when the approach to determining the return on debt allowance changes. Notwithstanding this intent, the effect of the proposed transition mechanism is to impose a significant windfall

[57] AEMC 2012, *Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper*, 29 November 2012, Sydney, page 76.j

[58] AEMC 2012, *Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper,* 29 November 2012, Sydney, page 85.

loss on TransGrid and to delay unnecessarily the alignment of the return on debt allowance from the efficient financing costs of a benchmark efficient entity.

This windfall loss arises because TransGrid's actual debt management practices are broadly consistent with a trailing average of fixed rate debt. We note that the witness statement of Boon Thiow, 12 January 2015, is clear that:[59]

> TransGrid's approach to be broadly consistent with the trailing average approach to debt that the AER proposes to apply going forward, it does not exactly replicate it. Instead, TransGrid manages its debt based on interest rates faced in the market and its expectations of those rates into the future. In particular, TransGrid does not issue debt every year with a tenor of 10 years and may issue debt for shorter or slightly longer periods taking into account factors such as the interest rates expected over that timeframe and the shape of the yield curve.

Consequently, the transitional arrangements would impose significant windfall losses on TransGrid, because they apply a yield of 6.67 per cent for all existing debt, notwithstanding that a trailing average of fixed rate debt is in the order of 7.92 per cent.

3.4.2 Good regulatory practice

In our opinion, it is an entirely appropriate question for a regulator to ask whether a windfall gain or loss may arise as a result of changes in the cost of debt methodology. Notwithstanding the reasonableness nature of such a question, in these circumstances the immediate introduction of a trailing average cost of debt allowance would not result in any windfall gains or losses because TransGrid's debt financing practice is both efficient and already broadly consistent with a trailing average approach to the determination of a cost of debt allowance.

Further, we note that any assessment of the actual gains or losses caused by a change in the regulatory regime is not a straight forward exercise. Under incentive-based regulation, a network service provider can be expected to out- or under-perform the debt costs of a benchmark efficient business. It follows that any assessment of the extent to which windfall gains or losses may have arisen must distinguish between those which may have arisen as a result of a change in the regulatory arrangements, and those resulting from any out- or under-performance of the benchmark.

We also note that changes in regulatory rules that substantially affect the basis of, and prospects for, investor cost recovery need to be handled with a great deal of care and sensitivity in relation to the expectations of existing investors. Transitional arrangements designed to manage the impact of regulatory changes are consistent with the NEO since, the regulatory risks otherwise created ultimately cause investors to demand higher returns in order to commit their capital to providing electricity services. This principle was explicitly recognised by SFG, and cited by the AEMC in the context of the recent rule changes in relation to the return on debt allowance.[60]

In this case, TransGrid's debt management practice allows it to minimise its actual debt costs while managing refinancing risk, which is consistent with the objectives that the AER has itself determined should be pursued by a benchmark efficient business. Furthermore, under the old framework where the allowed cost of debt is periodically reset by reference to prevailing debt yields, TransGrid would have had a reasonable expectation that, in the long run, it would fully recover its actual debt costs.

On this basis, it is very difficult to demonstrate or conclude that TransGrid has been inefficient, and thereby to justify the AER imposing proposed transitional arrangements that result in TransGrid under-recovering its debt costs in the order of hundreds of millions. Under-compensation on the scale contemplated is likely to affect investor expectations on the ability of the regulatory regime to provide sufficient revenues so as to

[59] Thiow B., Statement of Boon Thiow affirmed 12 January 2015, paragraph 3.5.

[60] AEMC 2012, *Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper*, 29 November 2012, Sydney, page 76.

recover their efficient costs, including an appropriate rate of return on its regulatory asset base. As a result, the under-compensation for the costs of debt will likely affect investment decisions and the efficient use of capital. It follows that a decision that does not apply the transitional arrangements is more likely to further the NEO, whereas a decision that applies the proposed transitional arrangements and results in a substantial and unintended under-recovery of TransGrid's benchmark efficient debt costs will not.

In our opinion, the imposition of the proposed transition arrangements will materially increase the perceived regulatory risk for network service businesses operating in the national electricity market, and so cannot be consistent with the achievement of the NEO.

4. Source of Third Party Data

4.1 The AER's approach

The draft decision proposes to estimate the yield on benchmark debt on any given day by applying a simple average of third party data provided by the Reserve Bank of Australia (RBA) and Bloomberg as follows:[61]

- the RBA broad-BBB rated 10 year curve (the RBA curve) – extrapolated to better reflect a 10 year estimate and interpolated to provide daily estimates; and
- the Bloomberg broad-BBB rated 7 year BVAL curve (the BVAL curve), extrapolated to 10 years.

We note that the AER's decision to use a simple average of these two curves is predicated on its conclusion that:[62]

> ... we are not satisfied that either curve is clearly superior to the other.

Specifically, the AER's analysis indicates that:[63]

- neither curve was clearly superior to the other with respect to:
  - the curves bond selection criteria; and
  - the curve fitting (or averaging) methodologies;
- both curves require adjustments from their published form so as best to reflect the benchmark yield;
- taking a simple average of both curves is consistent with Dr Lally's advice that 'on the question of which index better reflects the cost of debt for the efficient benchmark entity, there is no clear winner';
- consistent with the Tribunal's decision in the ActewAGL matter, where the AER cannot find a basis upon which to distinguish between published curves, it is appropriate to average the yields provided by each curve, so long as the curves are widely used and respected in the market; and
- a simple average of the two curves will reduce the likely shock if either curve becomes unavailable or produces erroneous estimates during a regulatory control period.

We note that the AER states that it would use an extrapolated 5 year BBB BVAL curve if the 7 year BVAL was unavailable. In our opinion, an extrapolated 5 year BBB BVAL provides substantially less insight into the likely yield on benchmark debt than either the extrapolated 10 year BBB RBA curve or the extrapolated 7 year BVAL curve. Consequently, where the 7 year BVAL curve is unavailable, we have relied solely on the RBA curve.[64]

4.2 Recommended approach

On the basis of the AER's analysis as summarised above, we recommend that TransGrid adopt the AER's proposed approach to estimating the debt yield in years where both the RBA curve and 7 year BVAL curve contain complete data-sets.

[61] AER, *Draft Decision TransGrid Transmission Determination 2015-16 to 2017-18*, Attachment 3: Rate of Return, November 2014, page 3-10 with the estimation formulas set out in the Return on Debt Appendix.

[62] AER, *Draft Decision TransGrid Transmission Determination 2015-16 to 2017-18*, Attachment 3: Rate of Return, November 2014, page 3-139.

[63] AER, *Draft Decision TransGrid Transmission Determination 2015-16 to 2017-18*, Attachment 3: Rate of Return, November 2014, page 3-137.

[64] Further, we note that, at this point in time, the AER has undertaken no analysis of the merits of using an extrapolated 5 year BVAL curve to estimate yield on benchmark debt.

4.3 Years in which the BVAL curve does not contain a complete data set

Our review of the BVAL curve indicates that:

- it was first published in November 2013, although the earliest date for which there exists a data point is 16 November 2010; and
- it contains a number of missing data points, particularly between 25 October 2010 and 1 February 2011.[65]

In light of the missing data points in the BVAL series prior to February 2011, we recommend that the annual debt yield in years prior to 2012 is calculated using only the RBA curve. In particular, the years prior to 2012, when the BVAL curve does not contain a complete data set, the annual debt yield should be calculated by extrapolating the RBA curve so as better to reflect a 10 year debt yield and then averaging the month-end yields in each calendar year.[66]

For completeness, we note that there is unlikely to be any material difference between estimating an annual average debt yield using:

- a simple arithmetic average of 12 month-end yields during the calendar year; or
- a simple arithmetic average of the daily yields over the calendar year.

4.4 Years where both curves contain complete data sets

In years where the BVAL curve is complete, we recommend calculating the debt yield using the approach in the draft decision. Specifically, we recommend that the debt yield in the 2012 and 2013 years as well as in the period 31 January 2014 to 30 June 2014 is calculated by way of a simple average of:

> the RBA curve – extrapolated to better reflect a 10 year estimate and interpolated to provide daily estimates; and

> the 7 year BVAL curve – extrapolated to 10 years.

For the avoidance of doubt, we note that this approach should be used in each year of the 2014 to 2018 regulatory period, to the extent that the BVAL curve is complete in each particular year.

[65] We note that the BVAL series also misses a number of data points in August 2010, September 2010, February 2011and March 2011.

[66] The RBA curve contains only month-end estimates of the debt yield.

5. Conclusion

There is broad agreement that, going forward, a benchmark efficient network would periodically issue fixed rate debt in a manner that minimised its cost of debt while managing refinancing risk. Consequently, beyond any transition period, the allowed cost of debt will be set by reference to a trailing average of annual benchmark debt yields. This methodology for setting the allowed cost of debt:

- provides the benchmark efficient business with a reasonable opportunity to recover its prudent debt costs;
- protects consumers from poor or inefficient debt management practices of networks;
- provides an incentive for the network business to minimise its total debt costs; and
- substantially reduces interest rate risk.

The remaining area of contention is whether immediately to align the return on debt allowance with the debt management strategy of the benchmark efficient network business, or whether to impose a period of transition that defers the alignment of the regulatory allowance for a period of ten years. In our opinion, there is no reasonable argument for deferring this alignment.

In this report we have demonstrated that the hedged trailing debt management strategy, on which the transitional arrangements are predicated, results in the network no longer having an incentive to minimise its total cost of debt. Rather, the network has an incentive to minimise the DRP component of its cost of debt, while managing its refinancing risk.

In contrast, under a trailing debt management strategy, which would not require the associated return on debt allowance to adopt any transition, results in the network having an incentive to minimise its total cost of debt while also managing its refinancing risk.

In our opinion, a business that adopts a debt management strategy that minimises its total cost of debt and so is productively efficient must be operating in manner that is consistent with the NEO.

Further we highlight that the AER's expert agrees with our assessment that an efficient business in the circumstances of TransGrid (in particular, with the scale of floating-to-fixed swaps necessary to be purchased at a time that other networks would also be active in the market) would not be capable of pursuing a hedged trailing debt strategy, because of the sheer size of its demand for such instruments. Notwithstanding insufficient liquidity in the derivatives market means that a benchmark efficient business could not enter into sufficient swap contracts, Dr Lally contends that it would still be efficient to adopt a hedged trailing debt strategy because the business would simply hedge over a slightly longer (73 day) period.

However, Dr Lally's assessment does not appear to appreciate the additional risk and costs that this strategy would impose on TransGrid and those other network businesses with similarly-timed requirements, as compared with a network that is able to hedge fully during the period that the allowed cost of debt is set. UBS estimates that not being able to put in place sufficient hedges within the averaging period allowed by the AER would result in $819 million in potential risk to the NSW service providers, and $157 million to TransGrid in particular.[67]

We note that when the AOFM was seeking to cancel $20 billion of swaps of a variety of tenors (predominately shorter than 5 years) in early to mid-2009, it took over 6 months to enter into 130 contracts with a value of $15.25 billion. This suggests that, a business in the circumstances of TransGrid and the other

[67] UBS, *UBS response to the TransGrid request for interest rate risk analysis following the AER draft decision of November 2014*, January 2015, page 3.

network businesses with similarly timed requirements, may take at least 6 months to enter into sufficient fixed-to floating swap contracts to cover their debt portfolios. It follows that a hedged trailing average approach would only have a limited capacity to remove the risks associated with movements in the risk free rate.

Finally, we draw attention to the substantial body of academic literature that demonstrates a negative correlation between risk free rates and the DRP. Consequently, a debt financing strategy that hedges one component of the cost of debt (ie, the risk free rate) while remaining exposed to the DRP, potentially adds additional interest rate risk by removing a natural hedge between the DRP and the risk free rate.

In conclusion, the hedged trailing average approach is a strategy that:

- does not provide an incentive for a benchmark network business to minimise its expected total cost of debt; and
- does not allow a benchmark efficient businesses in the circumstances of TransGrid to enter into sufficient floating-to-fixed swaps during the time that the cost of debt was fixed, and so to offset its underlying risk free rate risk (due to its size); and
- removes a natural hedge provided by the negative correlation between the DRP and the underlying risk free rate.

In contrast, a trailing average approach is a strategy that can be implemented by a benchmark efficient business in the circumstances of TransGrid. Further, it is a strategy that allows the network to recover its debt costs in the long term, while also providing an incentive to minimise its total debt costs and manage its refinancing risks. On this basis, in our opinion a trailing average approach would be an appropriate strategy for a benchmark efficient business to pursue where the regulatory framework sets the allowed cost of debt on an on-the-day basis. It follows that a benchmark efficient business that is periodically issuing fixed does not require any transitional arrangements with the introduction of a trailing average cost of debt.

In this report we have also refuted the contentions put forward by Dr Lally in support of the transitional arrangements. We find that the RBA corporate debt series is of sufficient length to enable a trailing average allowance to be implemented in mid-2014 as proposed by TransGrid. We noted that the AER analysis of the RBA series found no fundamental issue with the series and foreshadowed that it would solely rely on this series if the Bloomberg series was discontinued or started producing erroneous estimates.

Further, Dr Lally's suggestion that transitional arrangements substantially remove a 'windfall gain' that would occur without transition is demonstrably incorrect. Dr Lally's analysis is premised on the assumption that, prior to 2007, a network's allowed cost of debt matched its actual debt costs. However, as we have demonstrated, this is almost certainly not the case, since the 2004 decision set a DRP of just 90 basis points.

Dr Lally's analysis exclusively focuses on clawing back a presumed gain that networks have received from having their allowed cost of debt being set by reference to the prevailing debt yields in 2009, which he calculates as being higher than a business' actual debt costs over the 2009-14 period. In our opinion, clawing back presumed gains on the cost of debt is inconsistent with the operation of the regulatory framework, and the NEO. In our opinion, an analysis of windfall gains or losses is a forward looking assessment and, on that basis, a network would receive no windfall gain or loss if the allowed cost of debt immediately reflected a trailing average, since this is the strategy that a benchmark efficient business in the circumstances of TransGrid would in any case have pursued under the previous on-the-day regime.

Finally, Dr Lally asserts that the transitional arrangements produce results that are no different from those which would have occurred had there been no change in the regime. Although, superficially, the transitional arrangements do result in a similar allowed cost of debt in 20014/15, they cause a substantial change in the financial position of a regulated network. In particular, the transitional arrangements cause a material windfall loss on a regulated business in circumstances where its actual cost of debt is substantially above the rate

prevailing prior to the regulatory decision, by removing the possibility that this loss could be recouped in the long term.

We also explain why the imposition of the proposed transitional arrangements is inconsistent with the evident intention of the AEMC when making the current rule and is also contrary to good regulatory practice. For example, the AEMC noted that SFG concluded that:[68]

> Service providers are likely to have entered into financial arrangements to mitigate their risk given the current approach to estimating the return on debt. Therefore, any change in approach could lead to some service providers gaining extra revenue or losing revenue as a result of unwinding those financial arrangements. Gains or losses of revenue of this type from changes in regulatory arrangements could be perceived by investors as increasing regulatory risk, and thereby lead investors to seek a higher rate of return. SFG therefore recommend that consideration be given to transitional arrangements when changing the approach to estimating the return on debt.

The intention to apply transitional arrangements to avoid actual windfall gains or losses for regulated businesses from changes in the cost of debt methodology has foundations in good regulatory practice. A fundamental principle of good regulatory practice is that regulators seek to minimise regulatory risk by providing certainty and predictability in the regulatory framework.

In this case, TransGrid's debt management practice was entirely consistent with the former regime in that it had a reasonable prospect of recovering its debt costs, it had the incentive to minimise its actual debt costs and to manage its refinancing risk.

On this basis, it is very difficult to conclude that TransGrid has been inefficient, and thereby to justify a windfall loss in the order of hundreds of million, which will occur if the proposed transitional arrangements are imposed as suggested by the draft decision. In our opinion, to do so would be inconsistent with good regulatory practice and would materially increase the perceived regulatory risk for network service businesses operating in the national electricity market.

It follows that, in our opinion, immediately adopting the trailing average approach to setting the cost of debt allowance would result in a materially preferable decision, as compared with that in the draft decision, because:

- such a decision would be made in a manner consistent with good regulatory practice and contribute to the achievement of the NEO;
- the value at stake is sufficiently material for there to be a reasonable risk that, if the AER's draft decision is incorrect, otherwise efficient investment decisions will be adversely affected; and
- the draft decision has the potential to increase the perceived level of regulatory risk, and so increase the cost of providing regulated transmission services, which is not in the long term interests of consumers of electricity.

[68] AEMC 2012, *Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper*, 29 November 2012, Sydney, page 76.

A1. Curriculum Vitae

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Overview

Greg Houston is a founding partner of the firm of expert economists, HoustonKemp. He has twenty five years' experience in the economic analysis of markets and the provision of expert advice in litigation, business strategy, and policy contexts. His career as a consulting economist was preceded by periods working in a financial institution and for government.

Greg has directed a wide range of financial, competition and regulatory economics assignments during this consulting career. His work in the Asia Pacific region principally revolves around the activities of the enforcement and regulatory agencies responsible for these areas, many of whom also number amongst his clients. In his securities and finance work Greg has advised clients on a number of securities class action, market manipulation and insider trading proceedings, as well as on cost of capital estimation. On competition and antitrust matters he has advised clients on merger clearance processes, competition proceedings involving allegations of anticompetitive conduct ranging from predatory pricing, anti-competitive agreements, anti-competitive bundling and price fixing. Greg also has deep experience of infrastructure access regulation matters, and intellectual property and damages valuation.

Greg's industry experience spans the aviation, beverages, building products, cement, e-commerce, electricity and gas, forest products, grains, medical waste, mining, payments networks, petroleum, ports, rail transport, retailing, scrap metal, securities markets, steel, telecommunications, thoroughbred racing, waste processing and water sectors.

Greg has acted as expert witness in valuation, antitrust and regulatory proceedings before the courts, in various arbitration and mediation processes, and before regulatory and judicial bodies in Australia, Fiji, New Zealand, the Philippines, Singapore, the United Kingdom and the United States.

Greg was until April 2014 a Director of the global firm of consulting economists, NERA Economic Consulting where, for twelve years he served on its United State Board of Directors, for five years on its global Management Committee and for sixteen years as head of its Australian operations. Greg also serves on the Competition and Consumer Committee of the Law Council of Australia.

Qualifications

1982 **UNIVERSITY OF CANTERBURY, NEW ZEALAND**
B.Sc. (First Class Honours) in Economics

Prizes and Scholarships

1980 University Junior Scholarship, New Zealand

Career Details

1989-2014	**NERA Economic Consulting** Director (2000-2014) London, United Kingdom (1989-1997); and Sydney, Australia (1998-2014)
1987-89	**Hambros Bank, Treasury and capital markets** Financial Economist, London, United Kingdom
1983-86	**The Treasury, Finance sector policy** Investigating Officer, Wellington, New Zealand

Project Experience

Regulatory Analysis

2014	**Actco Gas** **Access price review** Expert reports on the economic interpretation of provisions in the national gas law and rules in relation to depreciation and the application of the national gas objective to the entire draft decision, submitted to the Economic Regulation Authority of WA.
2014	**Government of Victoria** **Economic regulation for privatisation** Advisor to government of Victoria on the economic regulation of the Port of Melbourne Corporation in the context of the proposed privatization of the port by way of long term lease.
2013	**Actew Corporation** **Interpretation of economic terms** Advice on economic aspects of the draft and final decisions of the Independent Competition and Regulatory Commission in relation to the price controls applying to Actew.
2012-13	**Gilbert + Tobin/Rio Tinto Coal Australia** **Price review arbitration** Analysis and expert reports prepared in the context of an arbitration concerning the price to be charged for use of the coal loading facilities at Abbott Point Coal Terminal.
2012-13	**Ashurst/Brisbane Airport Corporation** **Draft access undertaking** Advice, analysis and expert reports in the context of the preparation of a draft access undertaking specifying the basis for determining a ten year price path for landing charges necessary to finance a new parallel runway at Brisbane airport.
2012	**King & Wood Mallesons/Origin Energy** **Interpretation of economic terms** Expert reports and testimony in the context of judicial review proceedings before the Supreme Court of Queensland on the electricity retail price determination of the Queensland Competition Authority.
2012	**Contact Energy, New Zealand** **Transmission pricing methodology** Advice on reforms to the Transmission Pricing Methodology proposed by Electricity Authority.
2011-12	**Energy Networks Association** **Network pricing rules** Advice and expert reports submitted to the Australian Energy Market Commission on wide-ranging reforms to the network pricing rules applying to electricity and gas transmission and distribution businesses, as proposed by the Australian Energy Regulator.

2010-12	**QR National** **Regulatory and competition matters** Advisor on the competition and regulatory matters, including: a range of potential structural options arising in the context of the privatisation of QR National's coal and freight haulage businesses, particularly those arising in the context of a 'club ownership model' proposed by a group of major coal mine owners; and an assessment of competitive implications of proposed reforms to access charges for use of the electrified network.
2002-12	**Orion New Zealand Ltd, New Zealand** **Electricity lines regulation** Advisor on regulatory and economic aspects of the implementation by the Commerce Commission of the evolving regimes for the regulation of New Zealand electricity lines businesses. This role has included assistance with the drafting submissions, the provision of expert reports, and the giving of expert evidence before the Commerce Commission.
2011	**Meridian Energy, New Zealand** **Undesirable trading situation** Advice to Meridian Energy on the economic interpretation and implications of the New Zealand electricity rule provisions that define an 'undesirable trading situation' in the wholesale electricity market.
2011	**Ausgrid** **Demand side management** Prepared a report on incentives, constraints and options for reform of the regulatory arrangements governing the role of demand side management in electricity markets.
2010-11	**Transnet Corporation, South Africa** **Regulatory and competition policy** Retained to advise on the preparation of a white paper on future policy and institutional reforms to the competitive and regulatory environment applying to the ports, rail and oil and gas pipeline sectors of South Africa.
2010-11	**Minter Ellison/UNELCO, Vanuatu** **Arbitral review of decision by the Vanuatu regulator** Expert report and evidence before arbitrators on a range of matters arising from the Vanuatu regulator's decision on the base price to apply under four electricity concession contracts entered into by UNELCO and the Vanuatu government. These included the estimation of the allowed rate of return including its country risk component, and the decision retrospectively to bring to account events from the prior regulatory period.
2007-11	**Powerco/CitiPower** **Regulatory advice** Wide ranging advice on matters arising under the national electricity law and rules, such as the framework for reviewing electricity distribution price caps, the treatment of related party outsourcing arrangements, an expert report on application of the AER's efficiency benefit sharing scheme, the potential application of total factor productivity measures in CPI-X regulation, and arrangements for the state-wide roll out of advanced metering infrastructure.
1999-2004, 2010-11	**Sydney Airports Corporation** **Aeronautical pricing notification** Wide ranging advice on regulatory matters. This includes advice and expert reports in relation to SACL's notification to the ACCC of substantial reforms to aeronautical charges at Sydney Airport in 2001. This involved the analysis and presentation of pricing principles and their detailed application, through to discussion of such matters at SACL's board, with the ACCC, and in public consultation forums. Subsequent advice on two Productivity Commission reviews of airport charging, and notifications to the ACCC on revised charges for regional airlines.

2010	**Industry Funds Management/Queensland Investment Corporation** **Due diligence, Port of Brisbane** Retained to advise on regulatory and competition matters likely to affect the future financial and business performance of the Port of Brisbane, in the context of its sale by the Queensland government.
2009-10	**New Zealand Electricity Industry Working Group, New Zealand** **Transmission pricing project** Advice to a working group comprising representatives from lines companies, generators, major users and Transpower on potential improvements to the efficiency of New Zealand's electricity transmission pricing arrangements.
2007-09	**GDSE, Macau** **Electricity tariff reform** Advice to the regulator of electricity tariffs in Macau on a series of potential reforms to the structure of electricity supply tariffs.
2001-09	**Auckland International Airport Limited, New Zealand** **Aeronautical price regulation** Advice and various expert reports in relation to: the review by the Commerce Commission of the case for introducing price control at Auckland airport; a fundamental review of airport charges implemented in 2007; and the modified provisions of Part IV of the Commerce Act concerning the economic regulation of airports and other infrastructure service providers.
2008	**Western Power** **Optimal treatment and application of capital contributions** Advice on the optimal regulatory treatment of capital contributions, taking into account the effect of alternative approaches on tariffs, regulatory asset values, and network connection by new customers.
2000-08	**TransGrid** **National electricity market and revenue cap reset** Regulatory advisor to TransGrid on a range of issues arising in the context of the national electricity market (NEM), including: the economics of transmission pricing and investment and its integration with the wholesale energy market, regulatory asset valuation, the cost of capital and TransGrid's 2004 revenue cap reset by the ACCC.
2007	**Johnson Winter & Slattery/Multinet** **Review of outsourced asset management contracts** Expert report developing a framework for assessing the prudence of outsourcing contracts in the context of the Gas Code, and evaluating the arrangements between Multinet and Alinta Asset Management by reference to that framework.
2007	**Ministerial Council on Energy** **Review of Chapter 5 of the National Electricity Rules** Advice on the development of a national framework for connection applications and capital contributions in the context of the National Electricity Rules.
2006-07	**Ministerial Council on Energy** **Demand side response and distributed generation incentives** Conducted a review of the MCE's proposed initial national electricity distribution network revenue and pricing rules to identify the implications for the efficient use of demand side response and distributed generation by electricity network owners and customers.
2006	**Ministerial Council on Energy** **Electricity network pricing rules** Advice on the framework for the development of the initial national electricity distribution network pricing rules, in the context of the transition to a single, national economic regulator.

2005-06	**Minister for Industry** **Expert Panel** Appointment by Hon Ian Macfarlane, Minister for Industry, Tourism and Resources, to an Expert Panel to advise the Ministerial Council on Energy on achieving harmonisation of the approach to regulation of electricity and gas transmission and distribution infrastructure.
2005-06	**Australian Energy Markets Commission** **Transmission pricing regime** Advice to the AEMC on its review of the transmission revenue and pricing rules as required by the new National Electricity Law.
1998-2006	**Essential Services Commission of Victoria** **Price cap reviews** Wide ranging advice to the Essential Services Commission (formerly the Office of the Regulator-General), on regulatory, financial and strategic issues arising in the context of five separate reviews of price controls/access arrangements applying in the electricity, gas distribution, ports, rail and water sectors in Victoria. This work encompassed advice on the development of the Commission's work program and public consultation strategy for each review, direct assistance with the drafting of papers for public consultation, the provision of internal papers and analysis on specific aspects of the review, drafting of decision documents, and acting as expert witness in hearings before the Appeal Panel and Victorian Supreme Court.
2004-05	**Ministerial Council of Energy** **Reform of the National Electricity Law** Retained in two separate advisory roles in relation to the reform of the institutions and legal framework underpinning the national energy markets. These roles include the appropriate specification of the objectives and rule making test for the national electricity market, and the development of a harmonised framework for distribution and retail regulation.
2004-05	**Johnson Winter Slattery, ETSA Utilities** **Price determination** Advice on a wide range of economic and financial issues in the context of ETSA Utilities' application for review of ESCOSA's determination of a five year electricity distribution price cap.
2004	**Deacons/ACCC** **Implementation of DORC valuation** Prepared a report on the implementation of a cost-based DORC valuation, for submission to the Australian Competition Tribunal in connection with proceedings on the appropriate gas transportation tariffs for the Moomba to Sydney gas pipeline.
2003-04	**Natural Gas Corporation, New Zealand** **Gas pipeline regulation** Advisor in relation to the inquiry by the Commerce Commission into the case for formal economic regulation of gas pipelines. This role included assistance with the drafting of submissions, the provision of expert reports, and the giving of evidence before the Commerce Commission.
2001-03	**Rail Infrastructure Corporation** **Preparation of access undertaking** Advised on all economic aspects arising in the preparation of an access undertaking for the New South Wales rail network. Issues arising included: pricing principles under a `negotiate and arbitrate' framework, asset valuation, efficient costs, capacity allocation and trading, and cost of capital.
2002	**Clayton Utz/TransGrid** **National Electricity Tribunal hearing** Retained as the principal economic expert in the appeal brought by Murraylink Transmission Company of NEMMCO's decision that TransGrid's proposed South Australia to New South Wales Electricity Interconnector was justified under the national electricity code's 'regulatory test'.

2001-02 **SPI PowerNet**
Revenue cap reset
Advisor on all regulatory and economic aspects of SPI PowerNet's application to the ACCC for review of its revenue cap applying from January 2003. This included assistance on regulatory strategy, asset valuation in the context of the transitional provisions of the national electricity code, drafting and editorial support for the application document, and the conduct of a `devil's advocate' review.

2002 **Corrs Chambers Westgarth/Ofgar**
Economic interpretation of the gas code
Provision of expert report and sworn testimony in the matter of Epic Energy v Office of the Independent Gas Access Regulator, before the Supreme Court of Western Australia, on the economic interpretation of certain phrases in the natural gas pipelines access code.

Sworn Testimony, Transcribed Evidence[69]

2014 **Expert evidence before a UNCITRAL arbitral tribunal on behalf of Maynilad Water Corporation Inc (MWCI), in the matter of MWCI v Metropolitan Waterworks and Sewerage System (MWSS)**
Expert reports, sworn evidence, Sydney (by videolink to Manila), 31 August 2014

Expert evidence before the Australian Competition Tribunal on behalf of the ACCC, in the matter of AGL Energy v ACCC
Expert reports, sworn evidence, Sydney, 10-11 June 2014

2013 **Expert evidence before the Supreme Court of Victoria on behalf of Maddingley Brown Coal in the matter of Maddingley Brown Coal v Environment Protection Agency of Victoria**
Expert reports, sworn evidence, Melbourne, 12 August 2013

Expert evidence before the Federal Court on behalf of Modtech v GPT Management and Others
Expert reports, sworn evidence, Melbourne, 27 March 2013

2012 **Expert evidence before the Supreme Court of Queensland on behalf of Origin Energy Electricity Ltd and Others v Queensland Competition Authority and Others**
Expert reports, sworn evidence, Brisbane, 3 December 2012

2011 **Expert evidence before the Federal Court on behalf of the Australian Turf Club and Australian Racing Board in the matter of Bruce McHugh v ATC and Others**
Expert report, transcribed evidence, Sydney, 12 and 14 October 2011
Expert evidence in arbitration proceedings before J von Doussa, QC, on behalf of Santos in the matter of Santos and Others v Government of South Australia
Expert report, transcribed evidence, Adelaide, 13-15 September 2011
Expert evidence before a panel of arbitrators on behalf of UNELCO in the matter of UNELCO v Government of Vanuatu
Expert report, transcribed evidence, Melbourne, 23 March and 21 April 2011
Expert evidence before the Federal Court on behalf of ActewAGL in the matter of ActewAGL v Australian Energy Regulator
Expert report, sworn evidence, Sydney, 17 March 2011
Deposition Testimony in Re Payment Care Interchange and Merchant Discount Litigation, in the United States District Court for the Eastern District of New York
Deposition testimony, District of Colombia, 18 January 2011

[69] Past ten years.

2010	**Expert evidence before the Federal Court in behalf of the Australia Competition and Consumer Commission in the matter of ACCC v Cement Australia and others** Expert report, sworn evidence, Brisbane, 19-21 October 2010
	Expert evidence on behalf of Orion NZ, at the Commerce Commission's Conference on its Input Methodologies Emerging View Paper Transcribed evidence, public hearings, Wellington, 24 February 2010
	Deposition Testimony in *Re Payment Card Interchange and Merchant Discount Antitrust Litigation*, in the United States District Court for the Eastern District of New York Deposition Testimony, District of Columbia, 18 February 2010
2009	**Expert evidence before the Australian Competition Tribunal on behalf of Fortescue Metals Group Ltd, in the matter of Application for Review of Decision in Relation to Declaration of Services Provided by the Robe, Hamersley, Mt Newman and Goldsworthy Railways** Expert report, sworn evidence, Melbourne, 12-13 October and 5-6 November 2009
	Expert evidence on behalf of Orion NZ, at the Commerce Commission's Conference on its Input Methodologies Discussion Paper Transcribed evidence, public hearings, Wellington, 16 September 2009
	Expert evidence before the Federal Court on behalf of Fortescue Metals Group Ltd, in the matter of ASIC v Fortescue Metals Group and Andrew Forrest Expert report, sworn evidence, Perth, 29 April–1 May 2009
	Expert report and evidence in arbitration proceedings before Hon Michael McHugh, AC QC, and Roger Gyles, QC, between Origin Energy and AGL Expert report, sworn evidence, Sydney, 19-24 March 2009
2008	**Expert evidence on behalf of Orion NZ, at the Commerce Commission's Conference on its Draft Decision on Authorisation for the Control of Natural Gas Pipeline Services** Transcribed evidence, public hearings, Wellington, 21 February 2008
2007	**Expert report and evidence in arbitration proceedings before Sir Daryl Dawson between SteriCorp and Stericycle Inc.** Expert report, sworn evidence, 11 July 2007
2006	**Expert report and evidence in arbitration proceedings before Sir Daryl Dawson and David Jackson, QC, between Santos and others, and AGL** Expert report, sworn evidence, November 2006
	Expert report and evidence before the Federal Court on behalf of Fortescue Metals Group in the matter of BHP Billiton v National Competition Council and Others Expert report, sworn evidence, November 2006
	Expert report and evidence in arbitration proceedings before Sir Daryl Dawson and David Jackson, QC, between Santos and Others, and Xstrata Queensland Expert report, sworn evidence, September 2006
	Expert report and evidence before the Copyright Tribunal on behalf of the Australian Hotels Association and others in the matter of PPCA v AHA and Others Expert report, sworn evidence, May 2006
	Expert report and evidence in arbitration proceedings before Hon Michael McHugh, AC QC, on the matter of AWB Limited v ABB Grain Limited Expert report, sworn evidence, 24 May 2006
	Expert report and evidence to Victorian Appeal Panel, in the matter of the appeal by United Energy Distribution of the Electricity Price Determination of the Essential Services Commission Expert report, sworn evidence, 10 February 2006
2005	**Expert evidence on behalf of Orion NZ, at the Commerce Commission's Conference on its Notice of Intention to Declare Control of Unison Networks** Transcribed evidence, public hearings, Wellington, 17 November 2005
	Expert evidence on behalf of Orion NZ, at the Commerce Commission's Conference on Asset Valuation choice and the electricity industry disclosure regime Transcribed evidence, public hearings, Wellington, 11 April 2005
2004	**Expert report and evidence to the Australian Competition Tribunal, in the matter of Virgin Blue Airlines v Sydney Airport Corporation** Expert reports, sworn evidence, 19-20 October 2004

Expert evidence on behalf of Orion NZ, at the Commerce Commission's Conference on the ODV Handbook for electricity lines businesses

Transcribed evidence, public hearings, Wellington, 26 April 2004

Brendan Quach
Senior Economist

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Overview

Brendan has worked a consulting economist, specialising in network economics and finance in Australia, New Zealand and Asia Pacific region. Over the last 13 years Brendan has advised clients on the application of regulatory principles to airports, ports, telecommunications electricity transmission and distribution networks, water networks and gas pipelines. He has provided advice on application of the building block approach, incentive mechanisms, operating and capital allowances, financing and asset valuation to businesses, a regulators and governments.

Brendan is a specialist in the cost of capital for use in regulatory price reviews and contract arbitrations. He has authored reports on all aspects of the cost of capital including equity estimation techniques, the impact of tax imputation credits, and estimating benchmark debt costs.

Qualifications

1991-1995	**AUSTRALIAN NATIONAL UNIVERSITY** Bachelor of Economics (High Second Class Honours)
1991-1997	**AUSTRALIAN NATIONAL UNIVERSITY** Bachelor of Laws

Career Details

2014 -	**HOUSTONKEMP** Economist, Sydney
2001-2014	**NERA ECONOMIC CONSULTING** Economist, Sydney
1998-1999	**AUSTRALIAN CHAMBER OF COMMERCE AND INDUSTRY**

Finance

2013	Sydney Water Corporation Cost of capital estimation Preparation of two expert reports for submission to the Independent Pricing and Regulatory Tribunal (IPART) on the framework for determining the weighted average cost of capital for infrastructure service providers.
2013	**Queensland Competition Authority** **Price review** Undertook an independent quality assurance assessment of the models used to calculate regulated revenues for Queensland water utilities. The review considered: the formulation of the WACC; the intra year timing of cash flows; and the structural, computational and economic integrity of the models.
2012-13	**Gilbert + Tobin/Rio Tinto Coal Australia** **Assistance in drafting expert report on port prices** Analysis and expert reports prepared in the context of an arbitration concerning the price to be charged for use of the coal loading facilities at Abbott Point Coal Terminal. Issues addressed included asset valuation, cost of capital, forecast operation and maintenance costs and the economic interpretation of building block regulation.
2012-13	**Ashurst/Brisbane Airport Corporation** **Draft access undertaking** Advice, analysis and expert report on the weighted average cost of capital (WACC) in the context of the preparation of a draft access undertaking specifying the basis for determining a ten year price path for landing charges necessary to finance a new parallel runway at Brisbane airport.
2012	**APA GasNet** **Assistance in drafting cost of capital submission** Provided drafting assistance and strategic advice to APA on GasNet's cost of capital submission to the AER for the Victorian principal gas transmission network.
2012	**APA Brisbane to Roma Pipeline** **Assistance in drafting cost of capital submission** Provided drafting assistance and strategic advice to APA on the Brisbane to Roma Pipeline cost of capital submission to the AER.
2012	**Energy Networks Association** **Rate of return framework guideline** Co-authored a number of expert reports submitted to the Australian Energy Regulator on the rate of return framework guideline. These report considered a range of financial issues including: the applicability of various financial models to the estimation of the cost of equity; the estimates of the cost of equity from the Black CAPM; estimates of the historic market, size and value premiums; and the payout ratio of created imputation credits.

2012

Energy Networks Association
Advice on the new rate of return framework

Advice to the Energy Networks Association on the appropriate the implications of the new allowed rate of return framework to apply to electricity and gas transmission and distribution businesses. This report considered a range of financial models and other information that the regulator should have regard to when setting the regulated return on equity.

2012

Victorian Gas Networks
Black Capital Asset Pricing Model

Brendan co-authored a report that examined whether a version of the Black CAPM is better able than an empirical version of the Sharpe-Lintner (SL) CAPM to produce an estimate of the cost of equity that meets the requirements of Rule 87 (1) of the National Gas Rules (NGR). Following an examination of Australian financial data we concluded that an empirical version of the Black CAPM is better able than an empirical version the SL CAPM.

2011-12

Energy Networks Association
Review of Economic Regulation of Network Service Providers

Advice and expert reports submitted to the Australian Energy Market Commission on the new allowed rate of return framework to apply to electricity and gas transmission and distribution businesses, as proposed by the Australian Energy Regulator and the Energy Users Rule Change Committee.

2011-12

Energy Networks Association
Review of Economic Regulation of Network Service Providers

Advice and expert reports submitted to the Australian Energy Market Commission on the expenditure and incentive frameworks to apply to electricity transmission and distribution businesses, as proposed by the Australian Energy Regulator.

2011

Multinet Gas and SP AusNet - Gas Distribution
Report on the market risk premium

Co-authored a report that examined a number of issues arising from the draft decision on Envestra's access proposal for the SA gas network. The report considered whether: the historical evidence supported the use of a long term average of 6 per cent; there is any evidence to warrant a MRP at it long term average; and the evidence relied on by the AER to justify its return to a MRP of 6 per cent.

2011

Dampier to Bunbury Natural Gas Pipeline - Gas Transmission
Cost of equity of a regulated natural gas pipeline

Co-authored two reports that updated the cost of equity for a gas transmission business and responded to issues raised by the regulator in its draft decision. The report re-estimated the cost of equity of a gas distribution business using the Sharpe Lintner CAPM, Black CAPM, Fama-French three-factor model and a zero beta version of the Fama-French three-factor model.

2010-11

Queensland Competition Authority
Weighted Average Cost of Capital (WACC) for SunWater

Retained to provide two expert reports on the WACC for SunWater a Queensland rural infrastructure business. The first report considered issues pertaining to whether a single or multiple rates of return can be applied across SunWater's network segments. The second report focuses market evidence on the appropriate rate of return for SunWater.

2011

Mallesons Stephens Jaques/ActewAGL Distribution
Determining the averaging period

Assisted in the development of an expert report that considered the economic and financial matters arising from the Australian Energy Regulator's decision to reject ActewAGL's proposed risk free rate averaging period.

2010

Industry Funds Management/Queensland Investment Corporation
Due diligence, Port of Brisbane

Brendan was retained to advise on various regulatory and competition matters likely to affect the future financial and business performance of the Port of Brisbane, in the context of its sale by the Queensland government.

2010

Dampier to Bunbury Natural Gas Pipeline (DBNGP) - Gas Transmission
Cost of equity of a regulated natural gas pipeline

Co-authored a report that examined four well accepted financial models to estimate the cost of equity for a gas transmission business. The report of estimating the cost of equity of a gas distribution business using the Sharpe Lintner CAPM, Black CAPM, Fama-French three-factor model and a zero beta version of the Fama-French three-factor model.

2009-10

Jemena - Gas Distribution
Cost of equity of a regulated natural gas distribution network

Co-authored two reports on the use of the Fama-French three-factor model to estimate the cost of equity for regulated gas distribution business. The report examined whether the Fama-French three-factor model met the dual requirements of the National Gas Code to provide an accurate estimate of the cost of equity and be a well accepted financial model. Using Australian financial data the report also provided a current estimate of the cost of equity for Jemena.

2009

WA Gas Networks
Cost of equity of a regulated natural gas distribution network

Co-authored a report that examined a range of financial models that could be used to estimate the cost of equity for a gas distribution business. The report of estimating the cost of equity of a gas distribution business using the Sharpe Lintner CAPM, Black CAPM, Fama-French three-factor model and Fama-French two-factor model. The report examined both the domestic and international data.

2009 **Jemena and ActewAGL**
Cost of equity of a regulated natural gas distribution network

Co-authored a report on alternative financial models for estimating the cost of equity. The report examined the implication of estimating the cost of equity of a gas distribution business using the Sharpe Lintner CAPM, Black CAPM and Fama-French models. The report examined both the domestic and international data.

2009 **Prime Infrastructure**
Sale of Dalrymple Bay Coal Terminal (DBCT)

Brendan provided regulatory advice to a number of potential bidders for the assets of DBCT. Advice included an assessment of the rate of return parameters, depreciation, regulatory modelling and the regulatory arrangements in Queensland.

2008 **Joint Industry Associations - APIA, ENA and Grid Australia**
Weighted Average Cost of Capital for a regulated energy network

Assisted in the drafting of the Joint Industry Associations submission to the Australian Energy Regulator's weighted average cost of capital review. The submission examined the current market evidence of the cost of capital for Australian regulated electricity transmission and distribution businesses.

2008 **Joint Industry Associations - APIA, ENA and Grid Australia**
Weighted Average Cost of Capital for a regulated energy network

Expert report for the Joint Industry Associations on the value of imputation credits. The expert report was attached to their submission to the Australian Energy Regulator's weighted average cost of capital review. The report examined the current evidence of the market value of imputation credits (gamma) created by Australian regulated electricity transmission and distribution businesses.

Regulation

2014 **Ausgrid**
Application of the AER's efficiency benefit sharing scheme

Brendan provided expert advice to Ausgrid on the estimation of the efficiency carry-forward to be applied in the 2014-19 period. This advice extended to strategic advice on the implications of the AER's Better Regulation new EBSS.

2014 **Johnson Winter & Slattery/ATCO GAS**
Application of depreciation options under the new gas rules

Assisted in the drafting of an expert report on depreciation options consistent with the new gas rules for ATCO Gas for submission to the Economic Regulation Authority of Western Australia.

2013 **Energy Networks Association**
Submission to the AER's Proposed Efficiency Incentive Schemes

Brendan led a team that undertook to quantitatively investigate the incentive properties of the Australian Energy Regulator's (AER's) proposed efficiency schemes. The output of this assignment was an expert report to the AER's Better Regulation issues paper and internal advice to the ENS on the implications on aspects of the draft determination.

2013 **Actew Corporation**
Interpretation of economic terms

Advice on economic aspects of the draft and final decisions of the Independent Competition and Regulatory Commission in relation to the price controls applying to Actew.

2012-13 **Gilbert + Tobin/Rio Tinto Coal Australia**
Assistance in drafting expert report on port prices

Analysis and expert reports prepared in the context of an arbitration concerning the price to be charged for use of the coal loading facilities at Abbott Point Coal Terminal. Issues addressed included asset valuation, cost of capital, forecast operation and maintenance costs and the economic interpretation of building block regulation.

2012 **ACTEW Water**
Review of regulatory models

Brendan provided strategic and analytical advice to ACTEW on its regulatory models. The analysis included analysis of the risks and challenges of adopting a post-tax revenue model and the application of expenditure incentive mechanisms.

2012 **Queensland Competition Authority**
Review of the retail water regulatory models

Brendan undertook an independent quality assurance assessment of the financial models relied on by the QCA to set the regulated revenues of SunWater. The review considered: SunWater's Financial model, a model used by SunWater to calculate future electricity prices, an renewals annuity model, as well as the QCA's regulatory model. These models established a set of recommended prices for each of the 30 irrigation schemes operated by SunWater for the period 2014 to 2019.

2011 **Queensland Competition Authority**
Review of the retail water regulatory models

Undertook an independent quality assurance assessment of the models used to calculate regulated revenues for Queensland Urban Utilities, Allconnex Water, and Unitywater. The review considered: the formulation of the WACC; the intra year timing of cashflows; and the structural, computational and economic integrity of the models.

2011 **Queensland Competition Authority**
Review of the wholesale water regulatory models

Undertook an independent quality assurance assessment of the models used to calculate regulated revenues for LinkWater, Seqwater; and WaterSecure. The review considered: the formulation of the WACC; the intra year timing of cashflows; and the structural, computational and economic integrity of the models.

2010-2011 **Minter Ellison /UNELCO**
Review of regulatory decision by the Vanuatu regulator

Assisted in the development of an expert report on a range of matters arising from the Vanuatu regulator's decision to reset electricity prices under four concession contracts held by UNELCO. The matters considered included the methodology employed to calculate the new base price, the appropriateness of the rate of return, the decision by the regulator to reset future prices having regard to past gains/losses.

2010 **Orion Energy, New Zealand**
Information disclosure regime

Provided advice and assistance in preparing submissions by Orion to the New Zealand Commerce Commission, in relation to the Commission's proposed weighted average cost of capital for an electricity lines businesses. Issues addressed included the financial model used to calculate the required return on equity, the appropriate term for the risk free rate and the WACC parameter values proposed by the Commission.

2010 **Grid Australia**
Amendments to the AER's transmission revenue and asset value models

Developed and drafted a submission to the AER on the proposed amendments to the AER's post-tax revenue model (PTRM) and roll forward model (RFM). The proposal focused on a number of suggestions to simplify and increase the usability of the existing models.

2009 **CitiPower and Powercor – Victorian Electricity Distribution Network Reliability Incentive Mechanism (S-factor)**

Brendan was engaged by CitiPower and Powercor to provide advice on the proposed changes to the operation of the reliability incentive mechanism and was subsequently engaged to analysis the final version of the new arrangements. The advice considered the effects of the proposed changes to the operation of the two distribution network service providers. Specifically, how the 'S-factors' would be changed and implications this has to the revenue streams of the two businesses. A comparison was also made with the current ESC arrangements to highlight the changes to the mechanism.

2007

Electricity Transmission Network Owners Forum (ETNOF)
Amendments to the AER's transmission revenue and asset value models

Developed and drafted a submission to the AER on the proposed post-tax revenue model (PTRM) and roll forward model (RFM) that would apply to all electricity transmission network service providers (TNSPs). The proposal focused ensuring that the regulatory models gave effect to the AER's regulatory decisions and insures that TNSPs have a reasonable opportunity to recover their efficient costs.

Policy

2010

Ministerial Council on Energy, Smart Meter Working Group
The costs and benefits of electricity smart metering infrastructure in rural and remote communities

This report extends NERA's earlier analysis of the costs and benefits of a mandatory roll out of smart meters, by consider the implications of a roll out in rural and remote communities in the Northern Territory, Western Australia and Queensland. The project has focused on eight case study communities and has examined the implications of prepayment metering and remoteness on the overall costs and benefits of a roll out.

2007-08

Ministerial Council on Energy, Smart Meter Working Group
Assessment of the costs and benefits of a national mandated rollout of smart metering and direct load control

Part of a project team that considered the costs and benefits of a national mandated rollout of electricity smart meters. Brendan was primarily responsible for the collection of data and the modelling of the overall costs and benefits of smart metering functions and scenarios. The analysis also considering the likely costs and benefits associated with the likely demand responses from consumers and impacts on vulnerable customers.

A2. Letter of engagement

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13 January 2015

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ashurst

CONFIDENTIAL & PRIVILEGED

Dear Greg and Brendan

Letter of engagement – TransGrid – AER Draft Determination

The Australian Energy Regulator (**AER**) made a draft determination of the revenue allowances for TransGrid on 27 November 2014. This letter is confirmation of your ongoing engagement in relation to TransGrid's response to that draft determination (and materials supporting that draft determination) (**Response**).

Scope of engagement

You were engaged (and remain engaged) by us, on behalf of TransGrid, for the purposes of the Response, to:

(a) provide economic analysis and advice;

(b) prepare a written expert report (or reports); and

(c) undertake such other work as Ashurst Australia may instruct you as the Response progresses.

You were generally engaged to consider and respond to the sections of the draft determination dealing with the return on debt, and particularly the transition for the return on debt and the supporting material prepared by Dr Martin Lally.

You were engaged to respond to the list of questions in Attachment A. Ashurst engages you to produce your response to those questions in the form of a written report. Ashurst requires a final report by 13 January 2015.

The engagement is on the terms and conditions, and rates as agreed between Houston Kemp and TransGrid, and those terms and conditions are to take priority in the event of any inconsistency between this letter and those terms and conditions.

Enclosed is a copy of Practice Note CM7: Expert witnesses in proceedings in the Federal Court of Australia. Please ensure that your report complies with the requirements of Practice Note CM7, and also certify in your report that you have complied with Practice Note CM7.

Confidentiality

TransGrid requires you to agree to keep strictly confidential all Confidential Information disclosed to you during the course of your engagement in relation to the Response. This obligation survives the conclusion of your engagement under this letter.

You acknowledge that the Confidential Information will include information about the Response. You acknowledge that the Confidential Information is secret, confidential and of value to TransGrid, and its unauthorised use or disclosure may significantly damage TransGrid's business.

You agree that you must:

(a) keep the Confidential Information secret and confidential at all times;

(b) not disclose any Confidential Information to anyone except with TransGrid's prior permission; and

(c) ensure that each person to whom you disclose Confidential Information with the prior permission of TransGrid, including each member of your staff working with you in connection with this engagement, makes the same acknowledgment, agrees to comply with, and does comply with, (a) and (b) above.

In the event that you are required by a court or otherwise by law to disclose Confidential Information, you agree that you will inform TransGrid of this fact as soon as is possible in advance of this disclosure.

Intellectual Property Rights

You agree:

(a) that TransGrid retains all Intellectual Property Rights in any Materials which may be disclosed to you in the course of your engagement; and

(b) to transfer to TransGrid all Intellectual Property Rights in any Materials created by you in the course of your engagement.

Return of Confidential Documents

On request of TransGrid, you must:

(a) return to TransGrid any documents or other materials containing Confidential Information, or, if they are in electronic form, erase or destroy them and provide evidence of erasure or destruction to the satisfaction of TransGrid; and

(b) provide to TransGrid or destroy any materials created by you in connection with this engagement that contain Confidential Information, or, if they are in electronic form, erase or destroy them and provide evidence of erasure or destruction to the satisfaction of TransGrid.

Interpretation

In this letter:

(a) TransGrid means the TransGrid business and any related bodies corporate.

(b) **Confidential Information** includes all information in any form or medium relating to TransGrid, which is disclosed to you by TransGrid or its officers, employees, advisers or agents, but does not include any information which you can show:

(i) is in the public domain, otherwise than as a result of a breach of the contents of this letter; or

(ii) is already known to you prior to the disclosure or which is subsequently known to you as a result of disclosure by another source which was not, to the best of your knowledge, subject to any agreement for confidentiality.

(c) **Intellectual Property Rights** means all present and future rights conferred by statute, common law or equity in or in relation to copyright, trade marks, designs, patents, circuit layouts, plant varieties, business and domain names, inventions and confidential information, and other results of intellectual activity in the industrial, commercial, scientific, literary or artistic fields whether or not registrable, registered or patentable. These rights include:

(i) all rights in all applications to register these rights;

(ii) all renewals and extensions of these rights; and

(iii) all rights in the nature of these rights, such as moral rights.

(d) **Materials** means works, ideas, concepts, designs, inventions, developments, improvements, systems or other material or information, created, made or discovered by you (either alone or with others and whether before or after the date of this document) in the course of your employment or as a result of using the resources of TransGrid or in any way relating to any business of TransGrid.

Please indicate your acceptance of these terms by signing the enclosed duplicate of this letter in the space provided, and then returning it to us.

Yours faithfully

Ashurst Australia

Ashurst Australia

I accept the terms contained in this letter.

.....

Greg Houston

13 January 2015.....
Date

.....

Brendan Quach

13 January 2015.....
Date

ashurst

ATTACHMENT A – LIST OF QUESTIONS

1. What approach should the AER adopt to the return on debt? Please consider the following aspects:

    a. the overall approach to debt (ie the trailing average approach as against other approaches);

    b. the benchmark credit rating;

    c. the benchmark term of debt; and

    d. the data used to estimate the return on debt.

2. Does this approach differ from the approach to debt adopted in the AER's draft determination? Is so, please describe which aspects are different and which aspects are consistent?

3. In particular, should the AER impose on TransGrid a period of transition that defers the alignment of the return on debt allowance with the debt management strategy of the benchmark efficient entity, or should the return on debt allowance for TransGrid be calculated by immediately adopting the trailing average approach?

4. Please comment on whether imposing a transition for the return on debt allowance on TransGrid is consistent with good regulatory practice.

5. Please comment generally on the AER's draft determination on the return on debt (and the supporting documents for that decision).

ashurst

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