

2 February 2009

Mr Chris Pattas  
General Manager  
Network Regulation South Branch  
Australian Energy Regulator  
GPO Box 520  
Melbourne VIC 3001



QUEENSLAND  
TREASURY  
CORPORATION

Dear Mr Pattas

#### QTC SUBMISSION TO AER PROPOSED STATEMENTS

We welcome the opportunity to comment on the proposed weighted average cost of capital (WACC) parameters to be used in determinations for electricity transmission and distribution network service providers. Details of the proposed parameters appear in the proposed Statement of the Revised WACC Parameters (Transmission), Statement of Regulatory Intent of the Revised WACC Parameters (Distribution), and the accompanying explanatory statement released on 11 December 2008 by the Australian Energy Regulator (AER) entitled "Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters".

In particular, our comments relate to the proposal to shorten the term of the proxy for the risk free interest rate and the debt risk premium from 10 to 5 years, and the ability of a large regulated business to recover the assumed cost of debt used in the regulated WACC. In summary:

- the length of the regulatory period is arbitrary and therefore irrelevant to the investor's determination of the risk free asset against which it determines the required rate of return. To argue otherwise is to argue that asset values are determined by the way they are funded
- shortening the proxy term will penalise regulated businesses for attempting to borrow for the longest tenor possible as a prudent way of funding long term assets and reducing refinancing risk
- a 5 year proxy term will significantly increase refinancing risk and transaction costs for which a regulated business is not compensated via a higher equity beta, and
- attempting to meet the regulated cost of debt will incur very large transaction costs and will expose businesses with large borrowing requirements to risks which are also not compensated for in the current regulatory framework.

In addition, we also provide comments on the current market conditions as requested by your Chairman and yourself as a consequence of the meeting I had with you on 23 January 2009 at your offices.

The proposed changes will result in a lower regulated WACC relative to the current parameters, implying that risk has fallen. Based on all the observable evidence it cannot be argued that risk is lower now than it was when the current parameters were set. The AER's proposals are at odds with the fundamental principle upon which the Capital Asset Pricing Model is based—that increased risk is to be compensated by a higher expected return.

The proposed changes will also be a major deterrent to new investment, especially from the private sector. However, it will also negatively impact on government investment in the transmission and distribution sector and/or governments' capacity to fund other capital and recurrent expenditures. This should be considered in the context of what the majority of experts consider to be the worst economic conditions since World War II. Under these conditions a key initiative to stimulate the economy is for government to undertake significant capital expenditures. However, the ability for governments to do so will be seriously impacted if the WACC is reduced as proposed.

We therefore strongly encourage the AER to reconsider the proposed parameter changes, bearing in mind that it is inappropriate to offer a lower expected return when virtually all sources of risk have clearly risen and when the availability of debt and equity capital has greatly diminished. The deterioration in financial market conditions experienced over the last two years is not temporary. Any changes to the regulatory framework should not be based on the assumption that we will see a return to pre-credit crisis conditions or that the current conditions are an aberration.

Sincerely



Stephen Rochester  
Chief Executive



QUEENSLAND  
TREASURY  
CORPORATION

# RESPONSE TO THE AER'S PROPOSED WACC STATEMENTS

A paper prepared in response to the AER's proposed WACC statements for electricity transmission and distribution entities issued on 11 December 2008

## GENERAL COMMENTS

The AER's proposed changes, if adopted, will lead to a significant reduction in the regulated weighted average cost of capital (WACC) relative to the current parameters.

To argue the case for a lower WACC one must first show that risk has decreased. A sharp reduction in the availability of equity capital suggests that investors now require higher expected returns, yet a reduction in the equity beta and maintaining the 6% market risk premium has been proposed. Credit spreads have widened significantly and credit ratings are generally weakening, yet a stronger credit rating of A- has been proposed. Moving to a 5 year proxy for the risk free rate will reduce the ability of a regulated business to manage refinancing risk at a time when this risk has clearly risen. The proposed changes are at odds with the fundamental principle that increased risk should be compensated by a higher expected return<sup>1</sup>.

Offering a lower relative WACC in the current environment will be a major deterrent to new investment, especially from the private sector. Similarly, state government owners of transmission and distribution assets will be placed under further stress in providing services at a time when their balance sheets and revenues are already under pressure due to the weakening economy. While historically there has been reasonable access to capital in the transmission and distribution sectors, this draft recommendation, at a time when the availability of debt and equity has significantly reduced, is likely to lead to:

- the creation of additional uncertainty and risks that will ultimately deter investors from deploying capital in the Australian market.
- the pool of potential investors diminishing as a consequence of the proposed negative 'shocks' to the WACC.

Our submission provides a summary of current market conditions as well as focussing on the term for the risk free proxy and the ability of a regulated business to meet the assumed cost of debt. We believe the current 10 year term is fair and appropriate, consistent with CAPM and should therefore be maintained. We strongly disagree with AER's use of actual debt maturity information to justify shortening the proxy term to 5 years. This approach is circular because the debt management strategies have only been adopted because of the frequency of the pricing reset. These strategies are

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<sup>1</sup> We acknowledge that part of the reduction is due to a lower risk free rate. However, for a given risk free rate, the new parameters will produce a lower WACC relative to the current parameters.

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not pursued for any other reason. More importantly, the length of the regulatory period is arbitrary and therefore not relevant when calculating expected equity returns within the CAPM framework.

Attempting to meet the regulated cost of debt will require hedging strategies that will incur very high transaction costs. Although costs cannot be allowed for in the WACC they are relevant when considering whether the regulated cost of debt can be met in practice. We believe they should be classified as operating expenditure and fully recovered from regulated revenues.

## **CURRENT MARKET CONDITIONS**

The debt and equity markets have fundamentally changed over the past 18 months. It is now extremely difficult for businesses to fund their operations and in many instances, previous sources of debt and equity capital have completely withdrawn. Australia, which is a large net importer of both debt and equity capital, is in a difficult position as both equity and debt investors have and are actively seeking to repatriate their capital back to the domestic markets.

Even as a AAA-rated issuer, QTC is experiencing difficulty in raising new debt capital on the terms required by our borrowing customers. Prior to August 2007, QTC could undertake bond issues by having a tender which invited financial institutions to bid for QTC bonds. A reasonable expectation was that the tender would be oversubscribed by 3 to 5 times with all bids being in the range of 0.01% to 0.03% of the winning tenderer. This was a very efficient and competitive approach to issuance. Since August 2007, QTC has only once been able to issue bonds by way of tender and this was only after extensive discussion with financial institutions. Today our only avenue for issuance of our bonds is by way of reverse inquiry basis which is based on end investor interest for a specific bond maturity. This significantly impairs our ability to manage our financing profile.

Financial institutions will only hold a very limited amount of semi-government bonds on their balance sheets for the purpose of trading and market making. It is also evident that the market is weakening on a monthly basis. The provision of a Commonwealth Guarantee for financial institutions' issuance has exacerbated this and results in semi-government stock being ranked, from a credit perspective, lower than guaranteed bank issuance.

Similarly, the once very active over the counter swap market which is essential for managing interest rate risk has diminished substantially, particularly if large volumes need to be transacted. This is mainly due to financial institutions being unwilling, in this capital constrained environment, to make prices and take risk on their balance sheets. When they are willing, the transaction costs are very significant. This is understandable given interest rate volatility significantly increases "value at risk" which in turn significantly increases capital requirements.

Past crises of this nature have often been short-lived, with the market quickly moving to liquidate any malinvestments. The current crisis is unfolding in a very different way whereby conditions have continued to deteriorate over a relatively long period of time. With this in mind, there is no reliable way to determine if or when conditions will improve and it certainly cannot be assumed that conditions will have returned to normal by 2010. Risk is continuing to be re-priced and it is highly unlikely that we will see a return to the conditions that prevailed several years ago. Any proposed WACC parameter changes should not be based on the assumption that current financial market conditions are an aberration.

In this regard, comments made by David Green<sup>2</sup> of S<sup>3</sup> Advisory in its December 2008 report to the Australian Energy Market Commission should be carefully considered. These comments include:

*An important consideration for current and future investors in regulated network assets is whether they can access capital at a price that is implied in the regulatory WACC. Entities that can't access capital at the implied price of the regulatory WACC or lower will find any investment where its return is determined by the regulatory WACC uneconomic.*

*....The majority of electricity network assets are still owned by Government. Government will need to determine its commitment to provide the necessary capital to address expected demand growth and network connection and augmentation arising from CPRS and RET. While not part of the scope of this report, the issue of a reducing regulatory WACC is material in the context of the other factors affecting the energy sector which all go to the risk and reward that can be achieved on an investment. **As noted above, it is expected that the risk premium required on investments will increase, with those in the regulated energy sector being no exception.** [emphasis added]*

*....Where private capital that is invested in regulated networks is mobile the CPRS and RET may be the last straw. It appears that if additional capital is required to be committed to augment the network to with deal changing demand profiles, the capital will not be applied without significant additional incentives to those that exist under the current proposed CPRS, RET and regulatory arrangements.*

It is within this context that we would suggest to the extent possible, the AER should avoid making changes that will add to the risks currently faced by regulated businesses. Introducing further uncertainty into an already distressed market will have serious implications for the level of future investment in regulated businesses as well as the quality of the services currently provided.

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<sup>2</sup> Green, David, Draft report to the Australian Energy Market Commission, "Financing of future energy sector investments in Australia: The potential effects of the Carbon Pollution Reduction Scheme and Renewable Energy Target", December 2008, pp49-50.

## SECTION 1 - TERM OF THE RISK FREE PROXY

The AER has proposed reducing the term of the proxy for the risk free interest rate and debt risk premium from 10 to 5 years. Our understanding of the main reasons behind the proposal are as follows:

- Regulated network businesses do not, as a matter of preference, seek to issue long term debt.
- A forecast lack of liquidity in the corporate bond market means that regulated businesses will be forced to borrow for shorter terms than they have in the past.
- The weighted average term to maturity of regulated debt portfolios is between 1 and 5 years, implying that refinancing already takes place every 5 years or less, on average.
- There will be no incremental transaction costs or refinancing risks associated with switching to a 5 year proxy.
- The term premium between 5 and 10 year A-rated corporate bond rates is 40 basis points per annum. The full amount of the premium represents over-compensation to a regulated business.
- The above over-compensation violates the 'present value principle'.

Taken together, these points are viewed as persuasive evidence for reducing the proxy term from 10 to 5 years. We disagree with this conclusion for the following reasons:

- The financing structure adopted by regulated entities is not relevant to the investor's determination of the risk free asset against which it determines the required rate of return. To argue otherwise is to argue that asset values are determined by the way they are funded.
- The appropriate term of the risk free rate cannot be implied from the actual funding strategies used by regulated businesses. These strategies are heavily influenced by the frequency of the regulatory reset, which is arbitrary and has no basis in theory or economics. Aside from being a calculation tool, the length of the regulatory term should have no material influence within the regulatory framework.
- A regulated business should not be penalised for managing refinancing risk by *attempting* to borrow for the longest tenor possible. A 5 year debt risk premium will under-compensate for the actual credit margin on longer term borrowings.
- The use of interest rate swaps to achieve a 5 year combined interest rate exposure does not influence the frequency of refinancing or the size of the credit margins. These are determined by the original term of the actual borrowings. The use of swaps also creates another layer of costs for a regulated business.
- Refinancing does not already take place every 5 years or less, on average. A 5 year term will significantly increase refinancing risk and transaction costs, particularly in distressed markets, for which the business is not compensated via an increase in the equity beta.
- The term premium does not measure actual over-compensation. Most of the premium represents the credit and liquidity margin between 5 and 10 year A-rated corporate bonds. This margin is already being paid by the typical regulated business and cannot be viewed as over-compensation.
- Given the size of the risk free term premium and its declining long term trend, the extent of any over-compensation is immaterial.

A detailed discussion of these key points follows.

## USE OF THE CAPITAL ASSET PRICING MODEL

As the AER acknowledges in the Explanatory Statement, its review of WACC parameters does not extend to a review of whether the Capital Asset Pricing Model (CAPM) is the appropriate approach for establishing the cost of equity. However, we are concerned that the AER's conclusion with respect to the term of the risk free asset:

- is not consistent with the application of CAPM to determine the cost of equity, and
- has been determined with regard to the requirement to use the same term to establish the corporate debt margin. That is, the observed borrowing terms of regulated businesses have been used to support the argument for moving to a 5 year risk free rate and debt risk premium.

### *Application of CAPM to determine the cost of equity*

We submit that the use of the CAPM in the NER to determine the cost of equity, and the wording of clauses 6.5.2(b) and 6A.6.2(b) of the NER, requires that:

- the cost of equity in the WACC is calculated as the return on equity required by the equity investors in a distribution or transmission business, and
- the relevant risk free asset is the asset which investors would compare the return on to calculate the required return on equity.

This view, that the cost of equity is the return on equity required by investors in regulated entities, is consistent with the use of equity market data to determine the beta and market risk premium parameters. As a consequence:

- The relevant risk free asset, the return on which the investor compares in valuing the risky investment, *is not determined by consideration of the length of the regulatory period*. Investments in regulated entities span multiple regulatory periods and investors compare returns between regulated and non-regulated companies.
- The length of the regulatory period is arbitrary, has no economic basis and, therefore, is not relevant to the calculation of expected returns. If the regulatory period was one year, equity investors would not compare the returns available on one year risk free assets to price their investment in a regulated entity. It would be inappropriate to argue that a 1 year risk free rate should be used in the CAPM, yet this is what the AER's reasoning implies.
- In the case of equity investments in regulated companies, which are indefinite life entities and owners of long term assets, it is strongly argued that the relevant risk free asset to which an equity investor would compare is a long term risk free rate.
- The process of calculating a regulated WACC simply takes a 'snapshot' of the cost of capital at a particular point in time and fixes the return on capital for a 5 year period. It is inappropriate to confuse the frequency of measurement of the cost of capital with the length of the risk free and risky assets which the investor compares to determine the required return for investing in a regulated business.
- If, as the AER asserts, the regulatory price setting removes inflation, interest rate and systematic risks for the regulated entity at each reset, this would be reflected in a lower observed betas for equities in regulated entities and is therefore already accounted for under the CAPM. In this context, deeming a risk free rate equal to the regulatory period would be double counting the reduced risk relating to regulatory price setting, and would under-compensate equity investors.

- A regulator which opts to change the process for setting the parameters adds to the risk from an investor's perspective and therefore the rational investor will seek a higher return or remove themselves from the market.

The AER appears to have adopted an alternative model, which assumes that the regulated entity's cost of equity is separate and distinct from the return required by the equity investors in that entity. This has allowed the AER to argue that:

- due to the reset of a number of systematic risk parameters, the systematic risks borne by the regulated entity exist for a short, finite period, and accordingly a risk free rate equal to the term of the regulatory period should be used, and
- if the regulated entity receives a return calculated by reference to returns on risk free and risky assets beyond the five year period it is being over-compensated.

In our view, the AER's model is not consistent with the CAPM model used under the NER for these reasons:

- The CAPM model as it is applied elsewhere by the AER (ie estimation of beta and market risk premium) is based on a market for equity securities which are long-term investments, not finite life assets.
- The AER's model is inconsistent with the actual equity funding of distribution and transmission businesses, which are listed companies with indefinite lives extending across regulatory periods.
- The cost of capital is "the return required by investors in a commercial enterprise with a similar nature and degree of non-diversifiable risk as that faced by the distribution business" (cl 6.5.2(b), 6A.6.2(b)). This does not allow the AER to hypothesise that these investors bear risks only for a finite period. Any reduction in risk borne by the business must instead be expressed in its equity beta which is the measure of non-diversifiable risk.

Allowing regulated entities a lower return on capital based on the assumption that risk is borne for five years risks under-compensating its equity investors, and therefore inhibiting the ability of regulated entities to raise capital in the market.

## CONSIDERATION OF CORPORATE RISK PREMIUM IN RISK FREE RATE

The interaction of clauses 6A.6.2(e) and 6.5.2(e) in drawing a direct connection between the term of the risk free rate (asset) and the credit premium on the corporate bond do not allow the AER to decide the term of the risk free rate by reference to the term of corporate bonds issued by regulated entities.

There is potential for inappropriate results where the CAPM theory is not applied correctly in pursuit of other aims. In particular, it would not be possible to determine whether the aspects of the CAPM which deal with the measurement and pricing of systematic risk are functioning appropriately if the risk free rate element is arbitrarily changed. The AER Issues Paper or Explanatory Statement does not include any evidence to support the proposition that the CAPM theory does not appropriately capture the impact of the regulatory pricing regime on the beta, and hence cost of equity capital, of a regulated entity.



If the AER is concerned that the impact of clauses 6A.6.2(e) and 6.5.2(e) result in overcompensation, this could be addressed by an amendment to the NER. The relevant risk free rate for the CAPM is determined independently of the regulated entity, and as shown above, is not related to the length of the regulatory period.

In our view, determining the risk free rate by reference to the entity, and not the investor, could be a breach of the obligations under the clauses 6.5.2 and 6A.6.2 to apply the CAPM to determine the cost of equity for a regulated entity.

## EMPIRICAL EVIDENCE RELEVANT TO THE RISK FREE RATE

A report prepared by Deloitte for the AER examined the historical empirical evidence relevant to the term of the risk free rate. In particular, the following areas were examined:

- liquidity in the Commonwealth Government and corporate bond markets,
- debt portfolios in the energy network sector, and
- term premiums on long term bonds.

We have concerns with many of the conclusions reached by Deloitte and the AER based on the findings contained in this report. Of most concern is the ‘reverse engineering’ of the term of the risk free rate from the actual debt strategies used by regulated businesses. This is inappropriate as it violates a fundamental principle of asset pricing theory – that the value of an asset is determined independently of the way in which it is funded. It also sends a very dangerous message that a regulated business is not truly free in choosing the structure of their debt portfolio.

Even if this approach was valid, we will show that some of the AER’s conclusions relating to the structure of regulated debt portfolios are incorrect. As a consequence, the amount of over-compensation due to the use of a 10 year proxy has been greatly overstated.

## LIQUIDITY IN THE CGS AND CORPORATE BOND MARKETS

Deloitte reports that the market for non-financial institution corporate bonds has effectively vanished. As a consequence:

*The average maturity of corporate debt facilities has shortened, to around 3 years compared to 5 years plus previously. In the past, 5 and 10 year bonds were widely issued, but in the current market, the little volume that is being issued is primarily 3 year bank debt, with very little liquidity in 5 year facilities.*

*However, in the current market, the corporate bond market is illiquid and syndicated debt facilities are the only option available for refinancing. In the current corporate debt market, financing is most likely available for only 3 years, which will mean over time we will see the maturity profiles of non-government network businesses be more heavily weighted to short term debt, **despite their desire for longer term funding.** [emphasis added]*

Whether or not longer term debt is available in the future is irrelevant to the choice of term for the risk free proxy. By shortening the proxy term the AER will be punishing a regulated business for attempting to borrow for the longest tenor available, even though this is a prudent way of funding long term assets and managing refinancing risk. A 5 year proxy will force regulated businesses to raise

shorter term funding *even if longer term funding is available*. Although the AER does not prescribe the type of funding strategy to be used, the proposed change will 'price out' debt with tenors longer than 5 years as the debt risk premium will be lower than the actual credit margins. Implicitly restricting the type of debt that can be used by a regulated business is clearly inappropriate, especially when importance of reducing refinancing risk has risen significantly.

The borrowing terms that may or may not be available in the corporate debt market several years from now cannot be known with sufficient certainty and in any case should not have any influence on a key WACC parameter. Erring on the side of caution and maintaining a 10 year term is the appropriate course of action.

Deloitte also provided market based feedback on liquidity in the OTC and ETC derivatives market. Our comments relating to this feedback appear in Section 2.

## DEBT PORTFOLIOS USED IN THE ENERGY NETWORK SECTOR

The average debt term determines the total cost of debt paid by a regulated business. As this cost is the sum of the risk free rate and a credit margin, it is essential to consider the composition of the physical borrowings and how the total interest rate exposure has been achieved. A valid analysis of the debt portfolios must distinguish between:

1. the debt term to maturity when it was originally raised, and
2. the total interest rate exposure achieved by combining physical debt with derivative instruments such as interest rate swaps.

Both points need to be considered when estimating the size of any potential over-compensation. The first point is relevant in determining whether the debt risk premium included in the regulated cost of debt is sufficient to cover the credit margin in the actual cost of debt. The combined interest rate exposure will determine the amount of over-compensation due to the use of the 10 year risk free rate.

## REVIEW OF THE DELOITTE AND JOINT INDUSTRY ASSOCIATION FINDINGS

Data provided in a submission to the AER by the Joint Industry Associate (JIA) shows the original term to maturity of debt raised by private network businesses in Australia. The weighted average original term to maturity is 11.4 years. The JIA did not include the debt of government owned businesses in its analysis which, in general, tends to have a shorter original average term because government has traditionally had greater capacity to manage refinancing risk.

To obtain a more complete view of the debt profiles used, Deloitte collected debt maturity data from published 2007 annual reports and financial statements for both private and government owned businesses. The average debt term appears to be shorter than the figure reported by the JIA.

We believe some of the data in the Deloitte report has not been interpreted correctly. Firstly, the average debt term at a single point in time only reflects the position of each business within the current regulatory period and the impact of interest rate swaps. This figure conveys no information about the term of the debt when it was originally issued. For example, Deloitte state that:

*... as at 2007 the majority (64 per cent) of debt on issue by energy network businesses had a term-to-maturity of less than 5 years. **This implies a weighted average term of debt portfolios across the energy network sector of between 1 and 5 years.** [emphasis added]*

This does not mean that regulated businesses *issue* debt with an average term between 1 and 5 years. A business that is approaching a reset period will have a much shorter average debt term compared to one that has just completed a reset. However, this does not mean that shorter term debt was originally issued. Similarly,

*... confirms that government businesses tend to issue more short term debt relative to private businesses – debt on issue with a term of less than five years represents 76 per cent of the portfolios of government businesses compared to 57 per cent for private businesses.*

Neither group necessarily issues significant amounts of short term debt – the original borrowings become short-term with the passage of time. It is well known that, at past determinations, regulated government businesses have not borrowed for terms less than 5 years. The 76 per cent figure quoted above is highly misleading and does not accurately describe the issuance behaviours of regulated government businesses.

Interest rate swaps can create a material difference between the term of the actual borrowings and the combined interest rate exposure. This is confirmed by Deloitte:

*Typically private companies **borrow on the longest tenor available**, and then convert the fixed rate debt into synthetic floating rate debt. This would then be hedged during the reset period via an interest rate swap for the duration of the regulatory period.* [emphasis added]

On average, the original term of the borrowings is likely to be longer than the regulatory period. The JIA data support Deloitte's findings and show that when private regulated businesses issue new debt they generally choose fixed terms longer than 10 years. Swaps are then used to lock in a fixed rate of interest during the reset period for the term of the regulatory period (5 years). The AER has adopted a very different interpretation:

*Therefore if energy network businesses have a natural preference to issue long term debt, we would expect the weighted average debt portfolio to be around ten years or greater, given that the spread on ten year bonds is compensated via regulated prices. However the empirical evidence from Deloitte estimates the weighted average term of debt portfolios for regulated energy network businesses at around five years or less.*

*Given that energy network businesses are estimated to have a weighted average debt maturity profile of around five years or less, **there is no evidence to suggest that network businesses will seek to issue long term debt as a matter of preference.*** [emphasis added]

We strongly disagree. Provided the debt risk premium is based on a 10 year term it is clear that network businesses will *continue* to seek borrowings for the longest tenor possible and then use interest rate swaps to attempt to lock in a fixed rate of interest during the rate reset period.

Contrary to the AER's conclusion, moving to a 5 year proxy term will impose *incremental* costs and risks on the typical regulated business as:

- recovering the regulated cost of debt will require a more concentrated funding strategy with most debt having an initial term of 5 years. This will increase the refinancing frequency and reduce diversification, thereby increasing refinancing risk and transaction costs, and
- funding opportunities longer than 5 years will no longer be pursued even though they are an appropriate way of funding long term assets and managing refinancing risk.

In addition, it is emphasised that, in the absence of regulatory pricing, no business would ever fully reset their cost of debt every 5 years. That regulated business attempt to do this is entirely a function of the current regulatory regime. As the length of the regulatory period is arbitrary and not supported by economic theory, it cannot be used as justification for setting the term of the risk free proxy.

The issue of over-compensation cannot be addressed without considering the composition of the A-rated term premium. The only true source of over-compensation comes from the margin between 5 and 10 year risk free rates. As we show in the following section, this margin is small and has been steadily declining for several years.

## TERM PREMIUM ON LONG TERM BONDS

Using data sourced from Bloomberg on A-rated corporate bonds over 2001-2008, Deloitte calculated an average term premium of 40 basis points. The size of the premium appears to be an important factor in the AER's proposal to shorten the term of the risk free proxy:

*In sum, the AER considers that there will be a material incremental benefit to consumers as a result of a potential move to a risk free rate term which matches the length of the regulatory period.*

Using Bloomberg data over the same time period considered by Deloitte we calculated an average term premium of 11 basis points between 5 and 10 year Commonwealth government rates. The results are summarised in the table below:

### A-RATED CORPORATE BONDS

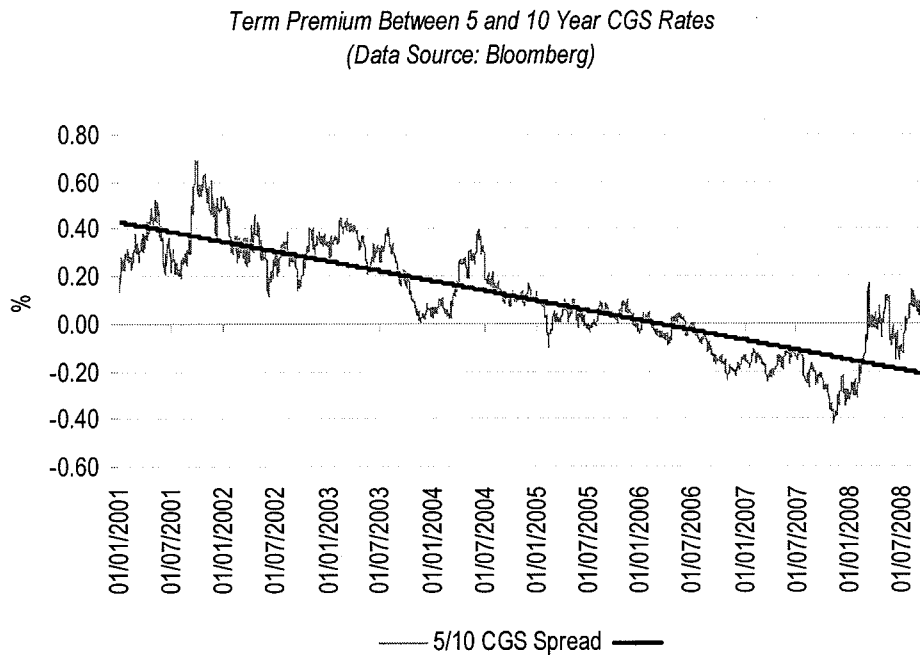
<i>Date</i>	<i>Commonwealth</i>	<i>Total Premium</i>	<i>Credit Premium</i>
2001 - 2005	23	58	35
2006 - Sept 2008	-11	10	21
<b>Average</b>	<b>11</b>	<b>40</b>	<b>29</b>

\* Data source: Bloomberg

The 40 basis point premium does not represent the actual over-compensation received by a regulated business. Of the premium, 29 basis represents the credit and liquidity margin between 5 and 10 year A-rated corporate bond rates. Information provided by Deloitte and the JIA shows that the typical regulated business has a preference for borrowing for terms closer to 10 years. Therefore, they already pay credit margins consistent with this term. A 10 year proxy provides correct compensation whereas a 5 year proxy will not.

## SIGNIFICANCE OF THE RISK FREE TERM PREMIUM

The following chart displays the term premium between 5 and 10 year Commonwealth Government bond rates over the same period analysed by Deloitte:



In addition to being small in an absolute sense, the term premium has been declining for several years. These findings are confirmed by longer term data. Extending the analysis back to September 1994 we compared the average term premium during the first and second halves of the sample period. The decrease in the average term premium is highly significant in both a statistical and economic sense<sup>3</sup>:

	<i>First Half</i>	<i>Second Half</i>
Mean	31	8
Standard Deviation	17	22

Our analysis shows that the true over-compensation is immaterial and has been steadily declining. Any benefits enjoyed by consumers will come at the expense of the regulated businesses and will result in a reduced appetite for investment in these businesses.

<sup>3</sup> Based on an hypothesised mean difference of zero between the average term premium in each half of the sample period, a t-statistic of 34.85 was calculated.

The AER concludes that:

*In sum the AER estimates that, relative to a term assumption consistent with the length of the regulatory period (i.e. 5 years), the current 10 year assumption will result in incorrect compensation for the risks faced over the regulatory period. The empirical evidence indicates that the extent of over-compensation on the cost of debt has been around 40 basis points on average.*

We strongly encourage the AER to revisit this conclusion, bearing in mind that:

- the length of the regulatory period is arbitrary and therefore not relevant to the expected return calculated using CAPM.
- a 5 year term will under-compensate for the actual credit margins paid by a typical regulated business that appropriately seeks to fund long term assets and reduce refinancing risk by borrowing for the longest tenor possible, and
- the term premium between 5 and 10 year risk free rates is the only true source of over-compensation. The average premium is immaterial (11 basis points) and has been steadily declining over the long term. The extent of the over-compensation based on the Deloitte report is greatly overstated.

In summary, there is no persuasive evidence supporting the proposal to shorten the term of the risk free proxy and debt risk premium from 10 to 5 years.

## **SECTION 2 – MEETING THE REGULATED COST OF DEBT**

We acknowledge that the NER requires a single rate of return be applied for each regulatory period, and that this period cannot be shorter than 5 years. As such, the alternative method for calculating the risk free rate and debt risk premium contained in our original submission cannot be adopted at this time. This requirement is unfortunate, given that significant benefits would accrue to both consumers and regulated businesses if the alternative methodology was adopted. We hope that a review of this requirement will eventually take place.

The practical problems and risks created by current methodology still remain:

- It is not possible for a regulated business to simultaneously pursue a diversified debt funding strategy and be able to guarantee full recovery of the assumed cost of debt. Even if the risk free rate is hedged during the reset period, the debt risk premium cannot be locked in.
- Large borrowers who attempt to hedge interest rate risk during the reset period can expect to incur very high transaction costs.
- Large borrowers are exposed to the risk of signalling to the market that a rate reset is taking place. This will produce an adverse outcome relative to the regulated cost of debt as market participants are likely to engage in opportunistic pricing behaviours. This risk is not captured by the equity beta.

Our proposed methodology would have significantly reduced these costs and risks. As they will still be present at future determinations, the issue of how they will be compensated for needs to be examined in greater detail.

## THE COST OF HEDGING

We understand that transaction costs cannot be included in the WACC although they may be recoverable through regulated revenues as operating expenditure. We believe it is important to provide objective, transaction based information regarding the potential size of these costs. According to Deloitte:

*Spreads on 5 year swaps have increased from 2-5 bps for BBB+ 12 months ago, to 14+ bps currently, and banks expect the possibility of those spreads doubling in the near future. Market makers indicated these spreads are on a per transaction basis, are strictly impacted by time to maturity, **and are not impacted by swap notional value.** [emphasis added]*

*... the consensus view was that through OTC and ETC markets there is still capacity in the market to hedge large amounts of debt (up to \$11.1 billion) within a 5-40 day window. Spreads in the interest rate swap market have increased, and are expected to increase further, but there is still available capacity in both swap and futures markets.*

These statements are contradictory. If spreads are not impacted by the notional value of the swap then there should be no limit on the amount of hedging that can be performed, yet an \$11.1 billion limit is quoted. Furthermore, we fail to see how bid/offer spreads can be independent of volume, especially when market conditions are highly volatile. This is completely at odds with our experiences in the swap market and with basic risk management principles.

The way in which the \$11.1 billion figure was estimated is unclear. If, for example, five market makers indicated they would have capacity to individually hedge \$2.2 billion of swaps, this does not mean that \$11.1 billion could be hedged *in total* over a 5-40 day period at the quoted 14+ basis point cost. The impact of multiple market makers attempting to hedge at the same time will cause spreads to widen and swap rates to rise. In practice, some market makers would refuse to quote a rate if several competitors were pricing and hedging the same transaction at the same time, especially when the volume is very large. We doubt that \$11 billion of swaps could be hedged (if at all) without incurring very large transaction costs and adversely moving the level of swap rates. Practical issues such as these have not been adequately addressed in the Deloitte report.

We support our claims by referring to the interest rate risk hedging for the Queensland based Airport Link public-private partnership project (BrisConnections). Approximately \$3 billion of swaps were executed on alternate days over a 10 day period. Total transaction costs of 21 basis points above the mid-swap rate were charged. According to the consensus view, spreads are expected to increase further and possibly double from current levels. As the Airport Link swaps were executed in August 2008, transaction costs of *at least 50 basis points per annum* in the current market represents a reasonable base case estimate for regulated businesses with a very large borrowing requirement.

The AER offers support for the hedging of interest rate risk during the reset period:

*The AER acknowledges the views from submissions that a prudent financing strategy will seek a diversified debt portfolio so as to minimise refinancing risk. On this basis the second option – **to hedge interest rate risk exposure during the averaging period – appears to be a reasonable assumption.** [emphasis added]*

A regulated business should therefore be very confident of being able to fully recover all costs associated with hedging interest rate risk. We believe they should be classified as operating expenditure and fully recovered from regulated revenues.

## POTENTIAL FOR OPPORTUNISTIC PRICING

The Deloitte report does not address other practical problems and risks faced by large regulated businesses who attempt to hedge their interest rate risk exposure over a short period of time. For example, transacting large swap volumes with the same tenor over many consecutive days will send a clear signal to the market that a rate reset is taking place. If this occurs the regulated business will be vulnerable to “front running” by other market participants. We continue to view this as a very significant shortcoming of the current regulatory framework. Putting aside the issue of transaction costs, we still believe that from a financial risk management perspective, it is not appropriate to attempt to transact such large swap volumes, especially in the current market. The best way to remove this risk is to partially update the risk free interest rate and debt risk premium each year.

It could be argued that risks such as these are captured via the equity beta. By construction, the equity beta is invariant to size. Applying a single equity beta to all regulated network businesses regardless of their size will not capture the risks that are unique to those with very large debt portfolios. There is no reason to believe this risk is compensated for in the WACC despite being created by regulatory framework itself. With this in mind, the AER’s proposal to reduce the equity beta is concerning given that so many sources of risk have risen to levels well in excess of those prevailing at prior determinations. It would appear that risks such as these have not been considered by the AER.

## CONCLUSIONS

We believe that a 10 year term for the risk free proxy is appropriate and should be maintained for the following reasons:

- The proposed approach to the calculation of the risk free rate is inconsistent with the CAPM principles.
- the length of the regulatory period is arbitrary and, therefore, irrelevant to the expected return calculated using CAPM.
- A 10 year term correctly compensates regulated businesses for continuing to seek funding for the longest tenor possible as a way of funding long term assets and reducing refinancing risk.
- A 5 year term will force regulated businesses to adopt less diversified, shorter term debt portfolios even if longer term funding is available. This will lead to an increased refinancing frequency, transaction costs and business risk for which there is no compensation by way of an increased equity beta.
- the amount of over-compensation actually received from the regulated cost of debt due to the use of a 10 year term has averaged only 11 basis points over 2001-2008 and has been declining since 1994. The 40 basis point estimate provided by Deloitte is greatly overstated.

We reiterate that it is inappropriate to reverse engineer the term of the risk free proxy by observing the debt strategies used by regulated businesses. These strategies are only pursued because of the



frequency of the pricing reset and are completely irrelevant to the investor's determination of the risk free asset against which the required rate of return is determined.

Given the sustained rise in interest rate volatility, attempting to meet the regulated cost of debt will incur a significantly higher level of transaction costs than in the past. The implicit support of hedging interest rate risk offered by the AER suggests that full recovery of these costs can be expected via increased operating expenditures.

Finally, we encourage the AER to reconsider the combined impact of the proposed changes. Collectively, the changes will lead to a lower WACC relative to the current parameters. This implies that risk has reduced when clearly it has not. This will serve as a significant deterrent to new investment and will adversely impact existing investment. As stated by David Green<sup>4</sup>:

*Australia is a net capital importer but its requirements make up only around three per cent of the total global demand for capital. As such, Australia is a price taker in the market for global capital. This means that in terms of the cost of capital, Australia is largely at the mercy of foreign markets as investors have opportunities to use that capital freely elsewhere. Anything that adds uncertainty or additional risks in the eyes of investors needs to be mitigated, managed and/or priced by them and the opportunities for them to invest their capital are wide and varied*

While David Green's report focuses on generation assets, similar concerns can be raised with other industries and sectors, including the electricity transmission and distribution sector. Any additional uncertainty around regulatory frameworks particularly with regard to the downward adjustment of the cost of capital parameters will further reduce the pool of debt and equity providers.

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<sup>4</sup> Green, David, Draft report to the Australian Energy Market Commission, "Financing of future energy sector investments in Australia: The potential effects of the Carbon Pollution Reduction Scheme and Renewable Energy Target", December 2008.