11 October 2013

Mr. Warwick Anderson
General Manager – Network Regulation Branch
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

Dear Mr. Anderson,

NSW DNSP Submission on the Rate of Return Draft Guideline

The NSW Distribution Network Service Providers, Ausgrid, Endeavour Energy and Essential Energy (the NSW DNSPs) are pleased to provide the attached response to the AER's 29 August 2013 Rate of Return Draft Guideline (the "draft guideline").

We consider that the cost of equity and the cost of debt should be measured in a way that minimises volatility in regulated revenues and consequently consumer prices over time. This should be a fundamental objective of the regulatory framework in setting appropriate rates of return over the long term. A long term approach is in the interests of both consumers and regulated businesses because it minimises the impact of short term volatility in financial markets on the allowed rate of return, thereby promoting efficient investment decisions and stable prices for consumers.

While we have a number of detailed comments on the draft guideline that are provided in Attachment 1, I would like to highlight the following matters that are of primary concern to the NSW DNSPs for consideration by the AER in finalising the guidelines:

Cost of debt – summary

- We support the adoption of a trailing average approach with annual updates for setting the cost of debt and commend the AER for recognising the long term benefits of a trailing average approach for both consumers and regulated energy network businesses;

- Throughout previous regulatory frameworks and the Global Financial Crisis (GFC), the NSW DNSPs have managed their debt on a staggered portfolio basis. We agree with the AER that a staggered portfolio approach is an efficient approach to debt management. The cost of debt under this approach is reflected in a trailing average cost of debt. As such we have serious concerns over the AER's proposed approach of adopting a transition to the trailing average, which would under-compensate a "benchmark efficient firm" with a debt portfolio size of the NSW DNSPs by more than $700 million over a seven year transition period based on current forward rate projections;

- In our view, if the AER was to apply a transition to the trailing average for the NSW DNSPs, this would provide an allowed cost of debt lower than the efficient cost of debt, which would not satisfy the Revenue and Pricing Principles in Section 7A of the National Electricity Law (NEL) to provide a network service provider with a **reasonable**

opportunity to recover at least its efficient costs. We also consider that any such decision by the AER to adopt a debt transition to the NSW DNSPs would be inconsistent with the National Electricity Objective and the Rate of Return Objective; and

- We consider that the benchmark term to maturity for setting the regulatory debt allowance should remain at 10 years, rather than moving to 7 years as proposed by the AER. The benchmark efficient practice of regulated and non-regulated, infrastructure businesses is to obtain debt with a term to maturity of 10 years or longer at issuance. While longer term debt tenures are appropriate for infrastructure businesses in managing their debt portfolios, the practical difficulties of obtaining data beyond 10 years for setting a regulatory debt benchmark is problematic, suggesting that 10 years should be the debt tenure adopted by the AER.

Given that energy network businesses invest in long life assets, which require stable financing costs over the long term, any move away from the current regulatory benchmark of a 10 year term to maturity should be to lengthen, rather than shorten, the debt tenure. On this basis, and recognising that there is not sufficient information on yields for bond issuance with a duration of greater than 10 years, we support maintaining a debt tenure of 10 years for setting the regulatory debt benchmark and we do not support the AER's move to shorten the regulatory benchmark term to maturity to 7 years.

Moreover, adoption of a 7 year term for the cost of debt would require material consequential changes to the AER's approach to other parameters. In particular, a lower assumed term of debt issuance would increase refinancing risk, reducing the benchmark credit rating and raising both the benchmark cost of debt and the benchmark cost of equity. Taking these consequential changes into account, as the AER is required to do under clauses 6.5.2(e)(2) and 6.5.2(e)(3) of the National Electricity Rules (Rules), adopting a benchmark term for the cost of debt of 7 years would lead to a higher overall cost of capital. In other words, it would be inefficient for the industry to fund itself using 7 year debt and this inefficiency would show up in a higher overall cost of capital if the industry actually attempted to do this.

The NSW DNSPs have also received advice from UBS on the options available to hedge our debt portfolios to the regulatory allowed cost of debt under the transitional arrangements proposed by the AER. The advice from UBS supports the view that the costs of moving away from the current portfolio approach to debt management would be prohibitively high for the NSW DNSPs and as such the costs of doing so would be inefficiently high.

Cost of equity - summary

- The AER should examine the final outcome of applying any estimation models to ensure that it is consistent with all of the relevant evidence, including investors' expectations of reasonable equity returns. This should avoid an outcome where individual parameters within a single estimation model are examined in detail in isolation, but when combined provide an unrealistic cost of equity. Further, the cost of equity should be set in such a way that minimises volatility in regulated revenues and consequently consumer prices over time;

- When estimating the cost of equity using the Capital Asset Pricing Model (CAPM) using an estimate of the market risk premium (MRP) that primarily relies on long term

historical data and an equity beta that relies on historical data, the risk free rate should also be estimated using historical data. This is an internally consistent approach, particularly when combined with a trailing average approach to the cost of debt, and should provide stability in the regulated return on equity over time; and

- It is a fundamental principle that the cost of equity for a company is higher than the cost of debt, since in the event of liquidation debt holders have preference over equity holders to access residual capital. When estimating the cost of equity, regard should be given to maintaining the relative risk spread on debt and equity.

I note that the draft guideline does not provide sufficient visibility on a number of key inputs to enable the NSW DNSPs to calculate an indicative rate of return. We therefore have not been able to provide meaningful input to the development of the AER's approach on the following matters that have a significant impact on the overall return on equity:

- Equity beta;
- Market risk premium; and
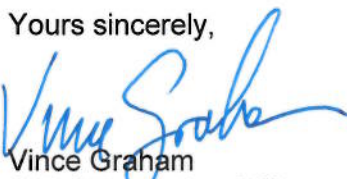- Incorporation of market evidence into the AER's "foundation" model.

We encourage the AER to circulate as much information as possible on these matters prior to finalising the guideline to allow stakeholders sufficient time to provide meaningful comment. In addition, we note and support the AER's intent to provide sufficient detail on all relevant matters pertaining to the calculation of the return on debt and the return on equity to allow stakeholders to calculate an indicative rate of return based on the final guideline.

I note that this submission has been supported by analysis undertaken by the Energy Networks Association (ENA) and in this regard we support the key positions outlined in the ENA's response to the AER's draft guideline.

In closing, I would like to express my increasing concerns over the time available to finalise a number of substantial matters that will impact on our upcoming transitional and five year regulatory proposals. Of particular concern is the AER's approach to incorporating a debt transition from the "on the day" approach to the trailing average for the NSW DNSPs, where we maintain that such an approach is not consistent with the Revenue and Pricing Principles contained in the NEL, the National Electricity Objective or the Rate of Return Objective.

If you would like to discuss this matter further, please contact Mr Mike Martinson, Group Manager Network Regulation at Networks NSW on (02) 9249-3120 or via email at michael.martinson@endeavourenergy.com.au.

Yours sincerely,

Vince Graham
Chief Executive Officer
Ausgrid, Endeavour Energy and Essential Energy

Attachments:
1. NSW DNSP Response to the AER's Rate of Return Guideline Consultation Paper
2. CEG October 2013 Report "Transition to a Trailing Average Approach"
3. UBS Confidential Report on Debt Restructuring Costs for the NSW DNSPs

ATTACHMENT 1

NSW DNSP RESPONSE TO THE AER'S RATE OF RETURN DRAFT GUIDELINE

COST OF DEBT

Trailing average approach– updated annually

The NSW DNSPs are highly supportive of the AER's trailing average approach to setting the allowed cost of debt in energy network decisions. The trailing average approach provides the right incentives for businesses to issue debt on a staggered portfolio basis, which minimises refinancing risk and provides greater stability in cash flows over time. The trailing average approach significantly reduces the exposure of both businesses and consumers to volatile changes in the cost of debt over time, thereby leading to pricing stability over time.

In its submission to the AER's Consultation Paper, the Public Interest Advocacy Centre noted that:

> "the AER's approach should ensure that the fluctuations at any point in time do not result in undue financial stress to either networks or consumers"[1]

We support this view, especially in the context of unprecedented volatility on debt markets following the global financial crisis.

As noted in our submissions on the AER's Rate of Return Consultation and Issues Papers, the benchmark efficient practice of privately owned and non-regulated infrastructure firms is to issue long term debt on a staggered portfolio basis. This position was supported by an expert report prepared by CEG included in the NSW DNSPs response to the initial Issues Paper.[2] We also understand, based on evidence collected by the ENA and reported in a letter to Mr Warwick Anderson from Dr Tom Hird at CEG that the average term of debt issued by private businesses regulated by the AER is over 11 years. It is prudent for firms that invest in long life assets to issue long term debt on a staggered basis because it allows management to plan over a long-term horizon and reduces potential exposure to financial market stress in any one debt raising period.

Ideally, debt raised by energy network firms would be very long term, matching the useful life of the assets these firms invest in (often 40 years or longer). However, the Australian Corporate bond market is not sufficiently deep or liquid to provide much debt well beyond 10 years. In addition, there is limited independent third party data sources estimating yields on debt issued beyond 10 years. As a result, the NSW DNSPs support a trailing average estimated using debt issued to 10 years as the AER's approach to setting the regulatory cost of debt benchmark.

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[1] PIAC, Submission on rate of return consultation paper, June 2013, p. 4.
[2] CEG, Efficiency of staggered debt issuance, February 2013.

The NSW DNSPs also agree with the approach of annually updating the cost of debt. Annually updating the cost of debt ensures that volatility in the cost of debt is smoothed over the regulatory period. This minimises the chance of price shocks for consumers at the time of regulatory determinations due to changes in the cost of debt.

Annually updating the cost of debt enables regulated businesses to hedge debt costs to the benchmark efficient allowance for the cost of debt throughout the regulatory period. This ability to hedge actual debt costs to the allowed cost of debt provides a stronger incentive to manage debt in accordance with the benchmark efficient approach. The inability for all regulated businesses to fully hedge to the previous "on the day" regulatory benchmark was a significant deficiency in the previous regulatory framework, which has been addressed by the AER in moving to the trailing average and the benefits of this would fail to be fully realised without annual updating.

We note that the AER previously did not have discretion to move away from the on-the-day approach in previous regulatory determinations as this approach was specified in the Rules that applied during the last round of regulatory determinations. With the additional discretion afforded to the AER for the first time arising from the November 2012 AEMC Rule change to select a debt benchmark, the AER has decided to move away from the on-the-day approach to the trailing average. This move to a trailing average is supported by the NSW DNSPs because it provides pricing stability to customers and network businesses alike.

Transitional arrangements for the cost of debt results in under-compensation

The NSW DNSPs do not support the transitional arrangements set out in the draft guideline, which effectively apply the previous on-the-day approach to setting the cost of debt and transition to the trailing average over a seven year period. When corporate bond yields are below the trailing average cost of debt (as is currently the case) the transitional arrangements under-compensate businesses that currently engage in the benchmark efficient practice of issuing fixed rate long-term debt on a staggered portfolio basis without any significant level of derivative contract overlay to the resulting debt portfolio. Similarly, if corporate bond yields increase above the trailing average cost of debt over the transition period, the transition approach would over-compensate such businesses.

The NSW DNSPs engaged Dr Tom Hird of CEG to review the case for applying the AER's proposed transition to a trailing average to a business that already funds itself in this way. As outlined in the CEG analysis provided as attachment 2, Dr Hird concluded:

> *Under the 'on the day' approach the cost of debt allowance was unhedgeable which means that actual business funding practices were forced to diverge from the regulatory benchmark. In my view, it is not reasonable to conclude that a business funding itself using a trailing average approach has adopted an inefficient funding strategy. This is especially the case in the context of an overall acceptance that a trailing average approach should ultimately be adopted as the benchmark for the industry as a whole.*
>
> *It follows that the costs that are estimated to be incurred under that strategy should be regarded as the business's efficient costs for the purposes of the revenue and*

pricing principles. Moreover, as described in section 4, there are potentially material economic efficiency costs associated with requiring a transition to a trailing average for a business that is already funding itself using a trailing average strategy. This further suggests that efficient costs for such a business should be determined to be consistent with a trailing average.

This analysis suggests that no transition should be imposed on a business that already funds itself using a trailing average approach. Imposing a transition on such a business may deny them a reasonable opportunity to recover at least the efficient financing costs the business incurs – inconsistent with the requirements of subsection (2) of the Revenue and Pricing Principles.

The transitional arrangements outlined in the draft guideline would be inconsistent with the National Electricity Objective and the Revenue and Pricing Principles if the AER were to apply these arrangements to the NSW DNSPs under current market conditions. The Revenue and Pricing Principles require that:

(2) A regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in—

(a) providing direct control network services; and

(b) complying with a regulatory obligation or requirement or making a regulatory payment.

The AER's draft guideline states that the benchmark efficient approach is to raise debt on a staggered portfolio basis.[3] The cost of debt under this approach is reflected in the trailing average estimate of the cost of debt. Applying the previous on-the-day approach and then slowly transitioning businesses to the trailing average approach (under current market conditions) would significantly under-compensate those businesses currently engaging in the benchmark efficient practice.

Based on current forecasts of corporate bond yields, the degree of under-compensation on the notional debt portfolios of the NSW DNSPs (i.e.60% of forecast RABs) would be approximately $719 million over a 7 year transition. For simplicity, this analysis assumes a term to maturity of 7 years, and a 7 year transition. However, the cost of a transition using the benchmark efficient term to maturity of 10 years will be even higher. Table 1 compares the cost of debt estimated using the trailing average approach (assuming a 7 year term to maturity), and the cost of debt using the transitional approach outlined in the AER's draft guideline when applied to a debt balance the size of the notional debt portfolios of the NSW DNSPs'.

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[3] AER, Explanatory statement on draft rate of return guideline, August 2013, p. 83.

Table 1: Indicative under-compensation of NSW DNSPs, using transitional cost of debt v trailing average with no transition

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	7 yr Avg
Combined benchmark debt portfolios for NSW DNSPs ($m)*	$17,363	$18,580	$19,753	$20,928	$22,147	$23,365	$24,592	**$20,961**
Trailing average with AER transitional arrangements (avg % rates pa)	6.35%	6.36%	6.42%	6.52%	6.65%	6.80%	6.95%	**6.58%**
AER trailing average with no transition (avg % rates pa)	7.75%	7.46%	7.28%	7.00%	6.73%	6.73%	6.95%	**7.13%**
								Avg rate
Under compensation (% pa)	1.40%	1.10%	0.86%	0.48%	0.08%	-0.07%	0.00%	**0.55%**
								Total $m
Under compensation ($m)	$ 243	$ 204	$170	$100	$18	-$16	0	**$719**

* Assumes 60% gearing on forecast RABs
**Based on Networks NSW internal analysis, the forward curve rates used to calculate the cost of debt allowance using the AER's transitional cost of debt approach are calculated are based on Bloomberg 7 year BBB AUD forecasts as at the end of August 2013.
*** The average rates per annum assume annual updating

No justification for transitional arrangements to apply to NSW

The NSW DNSPs recognise that the AER was constrained under the previous rules to agree an averaging period to set the cost of debt and the risk free rate prior to a regulatory determination. We note that this framework was developed under relatively stable market circumstances. However, following the global financial crisis the financial markets have become much more volatile. Fortunately, the new Rules provide the AER with the discretion to consider and implement the trailing average approach immediately. We see no benefit in continuing to expose both businesses and consumers in NSW to debt market volatility by applying the on the day approach and slowly transitioning to the trailing average approach when there is no requirement or call from stakeholders to do so.

The AER provided three reasons in the Explanatory Statement to its draft guideline for applying transitional arrangements to the cost of debt:

1. Providing a gradual transition to the trailing average approach given a possible change in prior expectations regarding the regulatory framework by stakeholders;

2. Practical considerations regarding use of historical information (and possible agreement) to calculate the return on debt; and

3. Minimising potential gaming opportunities for service providers.

A change in prior expectations of stakeholders–the NSW DNSPs are unaware of submissions that articulate a prior expectation that the previous regulatory framework would apply for the next round of energy network decisions. In fact we note that consumer groups have broadly submitted that they support an immediate transition to the trailing average approach to setting the cost of debt.

The Energy Users' Association of Australia (EUAA) submitted that:

> "If the reason for changing the arrangements for the return on debt is that the current arrangement is flawed, and that a rolling average is a better solution (both propositions now widely accepted) how can any change resulting from the correction of a flawed arrangement be "undue" or "sub-optimal", and hence deserving of a transition arrangement?"[4]

The Public Interest Advocacy Centre (PIAC) submitted that:

> "There are various approaches suggested to address the transition from 'on the day' to historical averaging for the cost of debt; these need to be critically examined to assess if the benefits to NSPs and consumers of a transitional approach significantly outweigh the complications of various approaches to transitioning.[5]

> …the experience of the last few years suggests that the 'on the day' approach is too vulnerable to volatility in the debt and equity markets. The greater the volatility, the more variance there is in the allowed cost of debt arising from the particular selection of the short-term averaging period".[6]

PIAC also submitted that:

> "PIAC considers that the implications of transitioning to a portfolio (trailing average) approach need to be carefully considered and tested. However, it is not yet convinced that the risk for the NSPs is greater than the volatility that would be created for the NSPs and the consumers through a continuation of the 'on the day' approach.

> Currently, the regulatory cost of debt is set on the basis of 'on the day' and fixed for the 5-year regulatory period. As such it bears little relationship to what NSPs are currently doing to manage their debt through various tenors, volumes and maturity dates. In other words, there is no evidence that NSPs are acquiring debt to align with the current regulatory benchmark approach.

> To what extent, therefore, would a change to a portfolio approach expose the NSP to additional risk as measured by the total WACC allowance compared to the current base case of 'on the day' assessment? PIAC would suggest that, in fact, a portfolio approach would be closer to the NSPs' actual practice and therefore be less of a mismatch than the current approach. It is not clear why special transitional

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[4] EUAA, Submission on rate of return consultation paper, p. 15.
[5] PIAC, Submission on the rate of return consultation paper, p. 5.
[6] PIAC, Submission on the rate of return consultation paper, p 29.

arrangements would be required to 'adjust' to a methodology that is closer to the reality of NSP financing than the current approach".[7]

The Major Energy Users (MEU) submitted that:

"…if the change was to be from a trailing average approach to an "on the day" approach, the MEU would consider that there is a need for a transition as the risk increases for NSPs.

The MEU does not see the need for a transition period for changing from the current "on the day" approach to the trailing average approach".[8]

Furthermore, given the significant potential losses that the NSW DNSPs would incur from the transitional arrangements in the draft guideline, as outlined above, a change in prior expectations does not appear to be a sufficient justification for applying transitional arrangements for moving to a trailing average cost if debt.

Practical data considerations – The NSW DNSPs acknowledge that in recent energy network decisions the source of data for setting the cost of debt has been contentious. This has been due to the limited number of BBB+ bonds issued in Australia with 10 years to maturity, and the limited number of independent, third party data sources. However, these issues affect the estimation of both a trailing average and an on-the-day cost of debt.

Therefore, practical data considerations are not a sufficient reason to apply the transitional approach to the cost of debt set out in the draft guideline. If anything, for past forecasts of fair value yields, data is available from both CBA Spectrum and Bloomberg whereas currently Bloomberg is the only independent third party data provider.

We are willing to work with the AER to agree an independent and non-contentious estimate of the trailing average cost of debt that can be implemented immediately. We also note that given the point estimates would be averaged over a 10 year period, data sources are likely to be less contentious than if data was only taken from a 10 to 40 day trading period.

Gaming – The draft guideline expresses a concern that transitions between the on the day and the trailing average provide opportunities for "gaming". The AER appears to be concerned that if it applies no transition to one group of business but applies a transition to another set of businesses then businesses will be attempt to cherry-pick which group they are in depending on market circumstances at the beginning of their next regulatory period. However, this is only a realistic concern if the AER has no criteria to apply for application of a "no transition" approach. In reality, a simple criteria exists which is that the business can demonstrate that it already funds itself in a manner consistent with a trailing average strategy.

For businesses that currently issue debt on a staggered portfolio basis, there is little scope for gaming by immediately transitioning to a trailing average approach for setting the cost of debt. The allowed cost of debt would simply match with the benchmark efficient costs they incur.

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[7] PIAC, Submission on the rate of return consultation paper, p. 34.
[8] MEU, Submission on the rate of return consultation paper, p. 44.

The NSW DNSPs note that, if anything, the transitional approach outlined by the AER actually provides greater scope for gaming than an immediate transition to the trailing average approach. If network businesses are able to specify the short-term averaging period for setting the cost of debt over the next regulatory period, they have the potential and incentive to pick a period when they believe rates are likely to be high.

We also note that the first decision for a five year regulatory proposal under the new Rules will take effect from 1 July 2015. It is extremely uncertain where interest rates will be by that time. The spot cost of debt at that time could be higher than the trailing average cost of debt at that time. Thus the transitional approach outlined by the AER simply exposes consumers to a significant change in prices due to volatile changes in forecasts of corporate bond yields observed over a short averaging period.

PIAC submitted that:

> "This choice is to forgo the prospect of some compensation for paying more than the efficient cost of capital (particularly cost of debt) in the previous regulatory period, and accept that the long-term interests of consumers lie in adopting a more stable and predictable trailing average /portfolio approach, that may:
>
> reduce the volatility in network pricing both within and between regulatory periods;
>
> therefore allow consumers and businesses to plan more effectively, with efficiency benefits for the broader community;
>
> **reduce the scope for gaming the regulator (and consumers)** [emphasis added]; and
>
> encourage the NSPs to focus on ways to perform better than the benchmark rather than ways to manipulate the benchmark".[9]

The EUAA submitted that:

> "a change in methodology does not of itself create an opportunity for gaming, and so it is not clear why a transition arrangement should be introduced on this basis".[10]

In summary, the concerns outlined in the draft guideline for why transitional arrangements should be applied to transition businesses from the on-the-day approach to the trailing average approach do not appear to be valid. There are further concerns, which are outlined below.

Inefficient for NSW DNSPs to match the transitional cost of debt approach

A transition would encourage NSW distributors to take on more risk than they currently do under the benchmark efficient practice of issuing debt with a term to maturity of 10 years or longer on a staggered portfolio basis (to respond to the transitional arrangements, either by hedging to the benchmark or trying to mitigate losses on existing debt that would likely arise from the transitional arrangements).

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[9] PIAC submission on consultation paper, June 2013 pp. 30-31.
[10] EUAA submission on consultation paper, June 2013, p. 15.

The AER has stated that transitional arrangements should not be specific to individual service providers' debt financing practice as this would be inconsistent with the fundamentals of incentive based regulation.[11] We note that we are not seeking transitional arrangements specific to our circumstances, but simply indicating that we have no difficulty adjusting to the benchmark efficient incentives provided by the trailing average approach. We also note the incentives provided under the previous "on the day" approach provided incentives to engage in risky and inefficient practices. The transitional arrangements proposed by the AER simply perpetuate the inefficient incentives provided by the on the day approach over the transition period.

In advice to the NSW DNSPs, Dr. Hird noted that applying a transition to a business that already funds itself using a staggered portfolio approach simply delays the timing of the benefits that are agreed will result from the final adoption of a trailing average. In the meantime, a business already funding itself using a trailing average approach is forced to absorb all of the unnecessary risks associated with an 'on the day' approach and, moreover, any attempt to mitigate some of those risks will incur significant transaction costs. Dr Hird stated:

> "… any attempt by a business to reduce such risks (even to the very partial level set out above) will create potentially prohibitive transaction costs. That is, the partial level of hedging provided by such a strategy is not free. It will have costs in terms of fees and charges by the arrangers of such trades. There will also be counterparty risks inherent in the contracts. Perhaps more significant, especially for a large business operating in a less than perfectly liquid market, buy/sell margins will be incurred going into both legs of the above swap strategy".[12]

The NSW DNSPs have received confidential advice from UBS on the options available to hedge our debt portfolios to the regulatory allowed cost of debt under the transitional arrangements proposed by the AER. We are happy to provide the detailed advice to the AER as a confidential attachment to our submission. The UBS advice states that it would be difficult and costly for the NSW DNSPs to refinance their debt portfolios over a 10-40 day period close to the start of the next regulatory. UBS advised:

- If the NSW DNSPs attempted to hedge their debt portfolios (approximately $17billion in notional debt) over a 10-40 day period, it is questionable whether the Australian swap market would be sufficiently liquid to accept this level of swap contracts;

- Even if the NSW DNSPs were able to hedge their full debt portfolios using interest rate swaps over a longer period (e.g. 3 months), the transaction would need to be performed behind information barriers to avoid speculators taking advantage of the hedging requirement. However, this would also limit the ability to gain a competitive rate through competition across market participants;

- Ausgrid, Endeavour and Essential Energy would take all market risk during the execution of the combined AUD interest rate swap position. This "basis risk" i.e. execution over a 3-month time period versus a regulatory rate set period of 10-days cannot be quantified precisely in advance. What can be quantified is that a two standard

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[11] AER, Explanatory statement to draft rate of return guideline, August 2013, p. 93.
[12] CEG, Transition to a trailing average approach, October 2013.

deviation shift in the 7-year swap rate over a 3-month time period i.e. a proxy for the maximum likely risk, is some 100bp over the current mid-market 7-year swap rate. Assuming that a 1bp shift in rates is equivalent to A$10.4m, the maximum likely shift in swap rates over a 3-month period is equivalent to A$1.04b. The expected exposure i.e. a 1 standard deviation shift in the 7-year swap rate over the same period is 46bp – equivalent to some A$478.4m. This basis swap risk – where the regulated entity is fully exposed to interest rate risk beyond the regulatory rate set period of 10-days – is not consistent with efficient debt management practices;

- The costs involved in executing such a large hedging transaction would be significant and the market risk that the NSW DNSPs would have to take on during the execution period would be extraordinarily high. It may be possible for the NSW DNSPs to issue their debt offshore in the US market and then enter into swaps to fix the USD/AUD exchange rate. However, the transactions cost of doing this (information requirements, credit rating reports, advertising etc.) would be prohibitively high.

- However, even though the US bond market is much more deep and liquid than the Australian market a new issuance of $17bn or greater would attract a significant new issuance premium. For example, the recent debt issuance by Verizon (approx $US 49bn) attracted a 100 basis point new issue premium. There would also be significant lead time (up to 3 months) before such a transaction could be completed.

- In addition to this, there is insufficient liquidity Australian cross currency basis swap market to hedge the exchange rate risk for such a large debt issuance in the US market immediately following such an issuance. Therefore the NSW DNSPs would be exposed to an extraordinarily high level of currency risk over the 3 month period before the debt issuance could be completed. 1 standard deviation in the AUD/USD rate over this period could increase the combined debt obligation of the NSW DNSPs (based on a notional debt portfolio of 60% of forecast RABs) by close to $1bn. The maximum shift over a 3 month period is likely to be 2 standard deviations leading to a potential increase in the combined debt obligation of the NSW DNSPs of close to $2bn.

- In both the domestic and offshore scenarios, it is unlikely that Ausgrid, Endeavour and Essential or bank counterparties to swap transactions would be able to engage in swap contracts without a Credit Support Annex (CSA) in place. This would expose the NSW DNSPs to even greater funding risks in the event that collateral is called in accordance with a CSA.

The advice from UBS supports the view that the costs of moving away from the current portfolio approach to debt management would be prohibitively high for the NSW DNSPs and as such the costs of doing so result in inefficiently high debt costs.

10 year term to maturity is efficient for energy networks

The NSW DNSPs support a 10 year term to maturity assumption for estimating the cost of debt. Energy network businesses invest in long life assets (40 years or longer), which require stable financing costs over the long term. Stability in financing costs is provided by issuing long term debt. Ideally debt issuances would aim to match the life of assets they fund. However, the corporate bond market is not sufficiently liquid to provide Australian energy network businesses with the option to issue the majority of their debt beyond 10 years.

The NSW DNSPs note that where possible infrastructure businesses issue debt well beyond 10 years. For example, PwC has provided evidence that energy network firms in the US and the UK (which have access to much deeper and liquid domestic debt markets than Australian firms) issue debt with an average term to maturity of closer to 20 years.[13] Domestically, we note that Sydney Airport has issued over $1billion worth of bonds well in excess of 10 years (approximate term to maturity of 15-20 years),[14] and that SP AusNet issued a 15 year bond in early 2013.[15] The NSW DNSPs also issue significant amounts of debt beyond 10 years. This demonstrates that where practical infrastructure firms issue long term debt in excess of 10 years.

PwC has provided analysis to the ENA which demonstrates that the average term at issuance for debt of privately owned energy networks in Australia was close to 10 years based on debt portfolios as at 31 December 2012.[16] The AER expressed concerns about this analysis in the explanatory statement to the draft rate of return guideline. PwC has addressed the AER's concerns about its analysis and, based on public information, its best estimate of the term at issuance for the debt of privately owned energy network firms in Australia is between 9.9 and 10.1 years.[17]

However, there are limits to the accuracy of such estimates based on public information. We understand, based on evidence collected by the ENA and reported in a letter to Mr Warwick Anderson from Dr Tom Hird at CEG, the average term of debt issued by private businesses regulated by the AER is actually in excess of 11 years.

The NSW DNSPs also note that the benchmark efficient practice of privately owned, non-regulated infrastructure businesses is to issue debt with a term to maturity of approximately 10 years or longer. This is demonstrated in the debt portfolios of infrastructure firms such as Sydney Airport and Transurban.[18]

PIAC supported a 10 year term to maturity assumption, noting that it is more reflective of the long term planning horizon of both investors and consumers. PIAC stated:

> "PIAC would support the adoption of a longer term planning horizon for the AER and the NSPs as this would be more consistent with the long-term interests of both consumers and investors. A longer term, such as 10 years, also appears to be more aligned with the long tenor of most of the NSP's debt portfolios".[19]

The NSW DNSPs consider that the benchmark efficient approach is to issue long term debt, including debt with a term to maturity in excess of 10 years. Ideally, the term of debt would match the life of the assets it is used to fund. However, there is limited scope to issue debt well beyond 10 years in the Australian corporate bond market, which is relatively small and illiquid by international comparisons. In addition, estimating benchmark bond yields in excess of 10 years is difficult due to the limited data sources available.

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[13] PwC, Benchmark term of debt, June 2013, pp. 11-12.

[14] CEG Efficiency of staggered debt issuance, February 2013, p. 31.

[15] PwC, Benchmark term of debt, June 2013, p. 11.

[16] PwC, Benchmark term of debt, June 2013, pp. 10-11.

[17] See PwC attachment to ENA submission on AER draft guideline, October 2013.

[18] CEG, Efficiency of staggered debt issuance, February 2013, pp. 31-32.

[19] PIAC, Submission on draft guideline, p. 14.

The NSW DNSPs note that energy network assets are financed by a mix of debt and equity. Equity investors in infrastructure businesses are likely to invest over the very long term. Therefore it is possible to prudently issue debt with a term to maturity that is shorter than the life of the assets being funded as equity funds are likely to be available with a longer term horizon than debt finance.

We also note that using a 10 year term to maturity assumption with a 10 year trailing average would actually provide the NSW DNSPs with a lower allowed cost of equity than using a 7 year term to maturity with of 7 year trailing average cost of debt. Based on estimates as at June 2013, the 10 year approach provides an estimated cost of debt of approximately 7.55% and a 7 year approach provides an estimate of 7.75%.[20] Notwithstanding, we support a 10 year term to maturity assumption as this is more reflective of a benchmark efficient approach both now and into the future.

Reducing term to maturity to 7 years increases re-financing risks

Reducing the benchmark term to maturity assumed for setting the allowed cost of debt creates an incentive for regulated businesses to issue shorter term debt – 7 years to match the benchmark assumption. If debt is issued to 10 years using a staggered portfolio approach, the average re-financing requirement is approximately 10% of the total debt portfolio each year. This rises to 14.3% if debt is issued with a 7 year term to maturity. This is a material increase in re-financing risks accepted by businesses, which is neither efficient, nor is it in the long term interests of consumers. Higher refinancing risks can reduce credit ratings and increase transactions costs, which would result in higher than efficient debt costs and higher prices for consumers.

- Standard & Poors analyse liquidity, being liquid assets as a proportion of the 12-month financing requirement. A shorter term to maturity for debt would increase the 12 month financing requirement causing deterioration in this metric.

- Moody's analyse the short-term gross debt requirement as a proportion of total debt. AER's proposal to shorten the debt tenure would cause short-term gross debt to rise and the credit metric to deteriorate.

If a business issues debt with a 10 year term to maturity on a staggered portfolio basis (equal issues each year), the weighted average term to maturity of debt is actually around 5.5 years. If the benchmark term of debt at issuance is reduced to 7 years, the average term to maturity of debt is shortened to around 4 years. This is a significant shortening of debt portfolios for Australian energy network businesses with assets valued at approximately $94 billion.[21]

The AER's Explanatory Statement makes the following claims:

> "As discussed in section 6.3.3 a benchmark efficient entity will balance refinancing risk (or renegotiation risk) against the rate of return on a debt portfolio and interest rate risk. In particular, when a service provider seeks to refinance its debt, it faces the risk that the return on debt will be either higher or lower than that currently incurred or

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[20] Internal analysis undertaken by the NSW DNSPs .
[21] AER, 2012-13 Annual report, 19 September 2013.

that it cannot obtain all of its debt requirements. This refinancing risk leads businesses to secure longer term debt and to diversify their debt portfolios by staggering the maturities on their debt. On the other hand, assuming an upward sloping yield curve, longer term debt is more expensive. Accordingly, a benchmark efficient entity would choose its debt tenor to balance this trade-off. Lally supports the view that an efficient (unregulated firm) would optimally trade off the reduction in renegotiation risk from longer term debt and the increased interest rate risk arising from a shorter effective term of debt". [22]

We do not support the above view (and the advice of Professor Lally) that issuing short term debt will lower the cost of debt and the only constraint on this is increased refinance risk. We believe this to be incorrect.

It may be true that, holding all other things constant, a business is likely to pay a lower yield on a single bond if that bond has a maturity of 2 years rather than 10 years. However, this should not lead to the conclusion that a business could lower its cost of debt by issuing all of its debt at 2 years. A large part of the reason issuing one bond at two years lowers the cost of debt on that bond is that it raises the cost of debt on issuing longer term bonds. That is, the 2 year bond becomes senior to the 10 year bonds in the sense that it will be paid out earlier – the holder of the 2 year bond is, in effect, shifting risk to the holders of the longer term debt. If a business issued all of its debt at 2 year maturity this effect disappears. It is quite plausible that, under this strategy, the cost of debt would be higher than if it issued all of its debt at a 10 year maturity.

Even if issuing a shorter average term of debt (say 7 years instead of 10 years) did lower the cost of debt it does not follow that it lowers the cost of capital. This is implicitly acknowledged in the above quote which states that there is a trade-off between lower interest rates and higher refinancing risks. Implicitly, this statement suggests that higher refinancing risks raise the cost of equity (if this is not the case then there is no trade off against which to optimise).

As noted by CEG, [23] the Modigliani-Miller theorem states that, in a world with zero transaction costs, the cost of capital is invariant to the type of debt funding used. Issuing shorter term debt, even if it has lower interest costs, will not lower the WACC because there will be an offsetting increase in the cost of equity. Consequently, even if it was correct that a 7 year term assumption (properly implemented with a lower credit rating than a 10 year term assumption) lowered the cost of debt there would need to be a consequential and fully offsetting increase in the cost of equity.

CEG also noted that the Modigliani-Miller theorem does, in the presence of transaction costs, allow for the cost of capital to depend on the debt management strategy employed by a business. However, because businesses can be assumed to have already adopted the strategy that lowers transaction costs, any assumption that departs from what businesses actually do (such as assuming a 7 year term) would raise (not lower) the cost of capital.

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[22] AER, Explanatory Statement on draft rate of return guideline, August 2013, pp. 105-106
[23] CEG, Efficiency of staggered debt issuance, February 2013. See section 9.

Swap contracts cannot be used to reduce the term to maturity of debt

In the draft guideline, the AER cited the opinion of Professor Martin Lally that engaging in interest rate swap contracts to fix some component of debt costs can reduce the "effective term to maturity" of debt issued by energy network businesses.[24] It is important to note that swap contracts cannot reduce the term to maturity of debt issued by businesses. At best swap contracts can reduce the cost of debt, and at worst swap contracts can lock in a higher than efficient cost of debt over a regulatory period.

The AER has recognised that the benchmark efficient approach is to issue debt on a staggered portfolio basis. As discussed above, the market evidence suggests that issuing to at least 10 years on average is the benchmark efficient practice of energy network firms in Australia. The AER has not stated that the benchmark efficient approach involves some mix of swap contracts and issuing debt on a staggered portfolio basis (which may or may not reduce the cost of debt over a regulatory period). Therefore, the cost of debt should be estimated based on debt issued with a term to maturity of 10 years.

Even if the AER's benchmark explicitly modelled interest rate swap contracts as part of a benchmark, the transactions cost of engaging in these contracts would constitute part of the efficient cost of debt. As outlined earlier, the transactions cost of engaging in interest rate swaps is prohibitively high for businesses with notional debt portfolios the size of the NSW DNSPs. Therefore, there is no evidence to suggest that a short term interest rate swap approach (swaps for 5 years or less) would deliver a lower cost of debt for businesses such as the NSW DNSPs.

The difference between a 7 and 10 year term assumption is material

The AER has stated that the difference between a 7 year term to maturity and a 10 year term to maturity assumption is not material. However, assuming an upward sloping yield curve, the cost of 10 year should be higher than the 7 year cost of debt. Assuming a 7 year term to maturity would systematically under-compensate energy network businesses that engage in benchmark efficient practices and issue to 10 years or longer to minimise re-financing risks to the greatest degree possible.

The NSW DNSPs understand that the ENA and the QTC have commissioned research which demonstrates that the term premium between 7 and 10 years is material on average and can fluctuate materially overtime.

Embedding under-compensation and unnecessary exposure to volatility in this under-compensation into the regulatory regime going forward is clearly inconsistent with the allowed Rate of Return Objective. It is also inconsistent with the rationale for the adoption of a trailing average cost of debt under the draft guidelines. The adoption of a trailing average where the term is set consistent with a business's actual term of debt has the significant advantage, relative to the on the day approach, of being hedgeable by a business. This means that the business can follow a strategy where the cost of debt allowance can reasonably be expected to approximate the cost of debt in real time. However, adopting a trailing average with a term that is different from a business's actual term of debt on the

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[24] AER, Draft rate of return guideline, August 2013, pp. 105-106.

basis that on average the difference will not be large would, even if true, expose the business to unnecessary risks in the short to medium term.

We consider that the benchmark term to maturity should remain at 10 years, rather than moving to 7 years as proposed by the AER. The practice of regulated energy network businesses and privately owned, non-regulated, infrastructure businesses in Australia is to issue debt with an average term to maturity of 10 years at issuance. Given that energy network businesses invest in long life assets, which require stable financing costs over the long term, any move away from the current benchmark of a 10 year term to maturity should be to lengthen, rather than shorten, the debt tenure.

COST OF EQUITY

A major concern for the NSW DNSPs is the lack of detail in the AER's draft guideline about how the cost of equity will be estimated in energy network decisions. The AER has stated that intends to use the Sharpe-Lintner CAPM under a "foundation model" approach. However, there is no detail on the figures that will be adopted for any of the parameters.

The AER's draft guideline does not provide a likely estimate for the equity beta, the expected return on the market, market risk premium or the risk free rate. This makes it very difficult for the NSW DNSPs to prepare an indicative WACC for their transitional year regulatory proposals (due 31 January 2014) and their substantive regulatory proposals (due 31 May 2014). We encourage the AER to include greater detail on its approach and parameter estimates in its final rate of return guideline and would welcome further detail prior to the release of the final guideline if available.

The following sections outline the NSW DNSP's comments regarding the AER's draft guideline relating to the calculation of the cost of equity.

All relevant evidence should be taken into account

While the NSW DNSPs do not oppose the use of a "foundation model" (i.e. the Sharpe Lintner Capital Asset Pricing Model (CAPM)) for calculating a final allowed cost of equity, it is important for the AER to set out in its guideline how it will take account of other relevant evidence, including the outcomes from other cost of equity models. If the foundation model approach is used, then the inputs and outputs from this model should be tested against all the relevant available evidence.

The new Rules explicitly require the AER to consider all relevant estimation methods, financial models, market data and evidence when determining the allowed rate of return.[25] This is an important enhancement to the regulatory framework because it provides the AER with the ability use cost of equity estimates from models other than the CAPM as both alternatives to, or a "sanity check" on, any estimates derived using the CAPM. This was a key objective of the AEMC during the rule change process. In its final rule determination, the AEMC stated:

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[25] NER, clause 6.5.2(e).

> *"The Commission has taken the view that it is preferable not to prescribe in the rules a list of particular models that should be considered or indeed prescribe characteristics that must be met by such a model. The Commission instead is requiring that the regulator have regard to relevant estimation methods, financial models, market data and other evidence and is leaving to the judgement of the regulator the relative weights to be given to methods, models and such information.* **Implicit in this requirement to consider a range of methods, models and information is that checks of reasonableness will be undertaken"**.[26] *[Emphasis added]*

We consider it unreasonable to restrict the consideration of the benchmark efficient cost of equity estimates to estimates derived from the CAPM alone. Particularly when other models, including the Dividend Growth Model (DGM), Fama-French three factor Model (FFM), broker estimates and independent expert reports are available and can provide a reasonable range of estimates for the cost of equity. These estimates should inform the final allowed cost of equity. The NSW DNSPs support the range of cost of equity estimates developed by the ENA using robust implementation of the DGM and the FFM as well as from broker estimates and independent expert reports.

For example, we note that SFG has developed a robust method for estimating the benchmark efficient cost of equity for regulated energy network businesses using the DGM. This was incorporated in the ENA's submission on the AER's Rate of Return Consultation Paper and estimated the average cost of equity for listed energy network businesses to be 10.4%, or 11.5% incorporating the value of imputation credits.[27] SFG has also responded to concerns raised by the AER about this analysis in the draft guideline.[28] The NSW DNSPs consider that the DGM based estimates of the benchmark efficient cost of equity for energy network firms, such as those developed by SFG, are robust and should inform the final cost of equity determined by the AER.

NSW DNSPs suggested approach

The NSW DNSPs are keen for certainty about the rate of return that will apply over the 2014-19 regulatory period. The rate of return is a critical input to regulated revenues, and we are seeking a transparent and robust estimate of the cost of equity to apply in regulatory determinations.

We consider that applying a long term risk free rate estimate, a long term estimate of the market risk premium, and an equity beta of 0.82 as estimated by SFG[29] is a reasonable approach and provides a reasonable cost of equity using the CAPM framework. The latest 10 year average of 10 year Commonwealth Government bond yields is around 5.11%.[30] A long term estimate of the market risk premium based on evidence from the AER's preferred

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[26] AEMC, Final rule determination, Economic regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, p. 69.

[27] SFG, Dividend discount model estimates of the cost of equity, June 2013, pp. 29, 39.

[28] This has been submitted as part of the ENA's submission on the AER's draft rate of return guideline.

[29] SFG, Regression based estimates of risk parameters for the benchmark firm, June 2013. p. 16.

[30] Based on RBA data on daily capital market yields for the 10 year period up to 8 October 2013.

source is around 6.5%.[31] This provides a cost of equity estimate of around 10.44%, which is consistent with the lower end of benchmark cost of equity estimates from the DGM, FFM and other sources.

The NSW DNSPs are concerned by the AER's preference for combining short term prevailing yields on 10 year Commonwealth Government bonds to estimate the risk free rate with an estimate of the market risk premium based primarily on historical data. Current yields on 10 year Commonwealth Government Bonds are currently well below the historic average, including the historic average since the RBA adopted formal inflation targeting in the late 1990s,as illustrated in the graph below. The EUAA has also noted that around 5% is where the average annual risk free rate has been for much of the past 20 years.[32]

Figure 1: Yields on 10 year Commonwealth Government bonds

Prevailing yields on 10 year nominal government bonds

10 year average of daily yields on 10 year Commonwealth Government Bonds
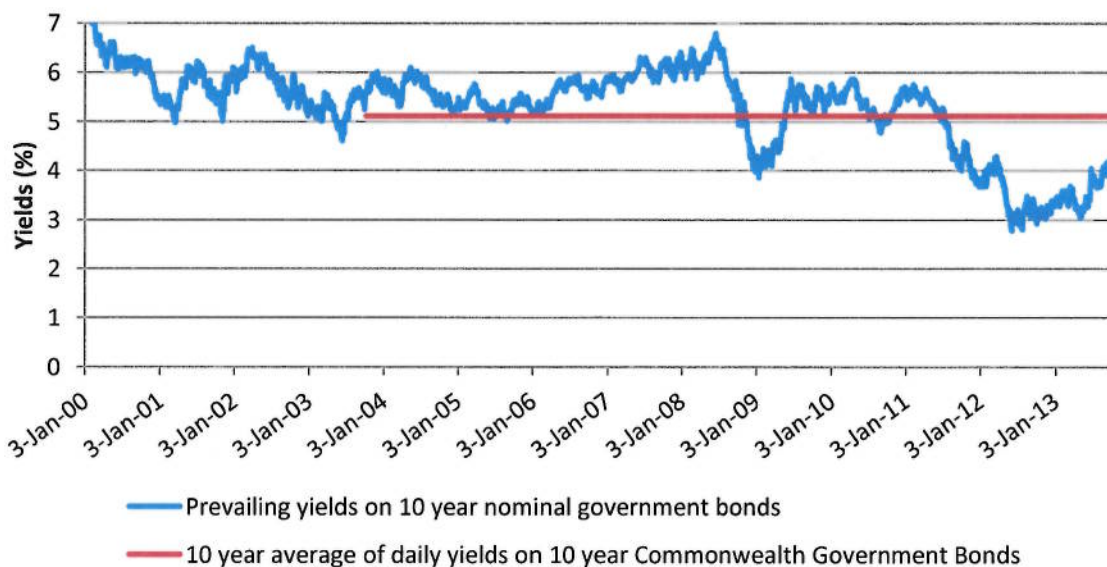
Source: RBA data on capital market yields

If the AER was to combine the current prevailing yield on 10 year government bonds (3.99% as at 8 October 2013) with an MRP based primarily on historical estimates of 6% and an equity beta of 0.8, this would result in an allowed cost of equity of 8.79%. This is significantly lower than robust cost of equity estimates using the DGM, FFM, as well as evidence from other sources as outlined in the ENA's submission on the draft guideline.[33]

The Rules require an overall estimate of the cost of equity and that the allowed rate of return is set having regard to all relevant estimation methods, financial models, market data and other evidence.[34] The available evidence on the benchmark efficient cost of equity from the DGM, FFM, broker estimates and independent expert reports suggests that the AER's past approach to applying the CAPM is unlikely to provide a reasonable cost of equity allowance.

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[31] See Brailsford, Handley and Maheswaran, The historical equity risk premium in Australia: Post-GFC and 128 years of data, Accounting and Finance, 2012 and NERA, The market, size and value premiums, June 2013, p. 17.
[32] EUAA, Submission on rate of return consultation paper, June 2013, p. 14
[33] See ENA, Submission on draft rate of return guideline, October 2013.
[34] NER, clause 6.5.2(e)(1)

## *Historical average approach reduces volatility in the allowed cost of equity*

If the MRP is to be set based on a historical average, then a historical average approach to estimating the risk free rate and the equity beta will reduce volatility in the regulated cost of equity over time. As illustrated in the graph below, the short-term averaging period approach used in the past resulted in risk free rate estimates and resulting overall cost of equity estimates that were highly volatile over time. This is not in the best interests of regulated businesses or consumers.

Figure 2: Short-term risk free rate estimates used in regulatory decisions
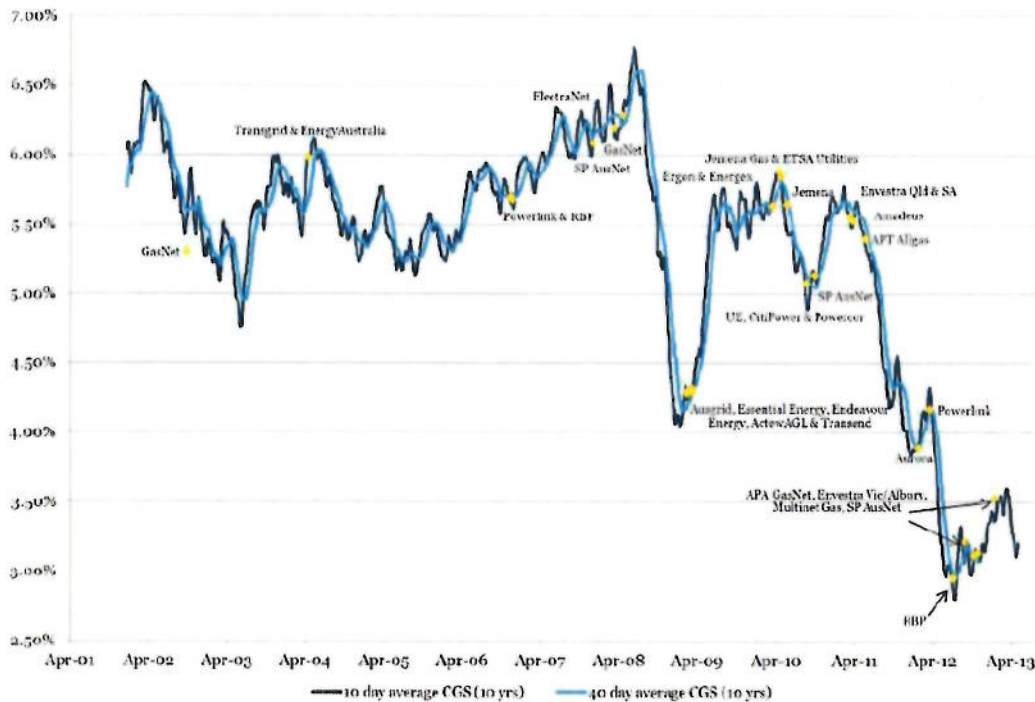
Source: CEG, Estimating E[Rm] in the context of recent regulatory debate, June 2013, p. 5.

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Figure 3: Overall cost of equity in decisions using short-term risk free rate approach
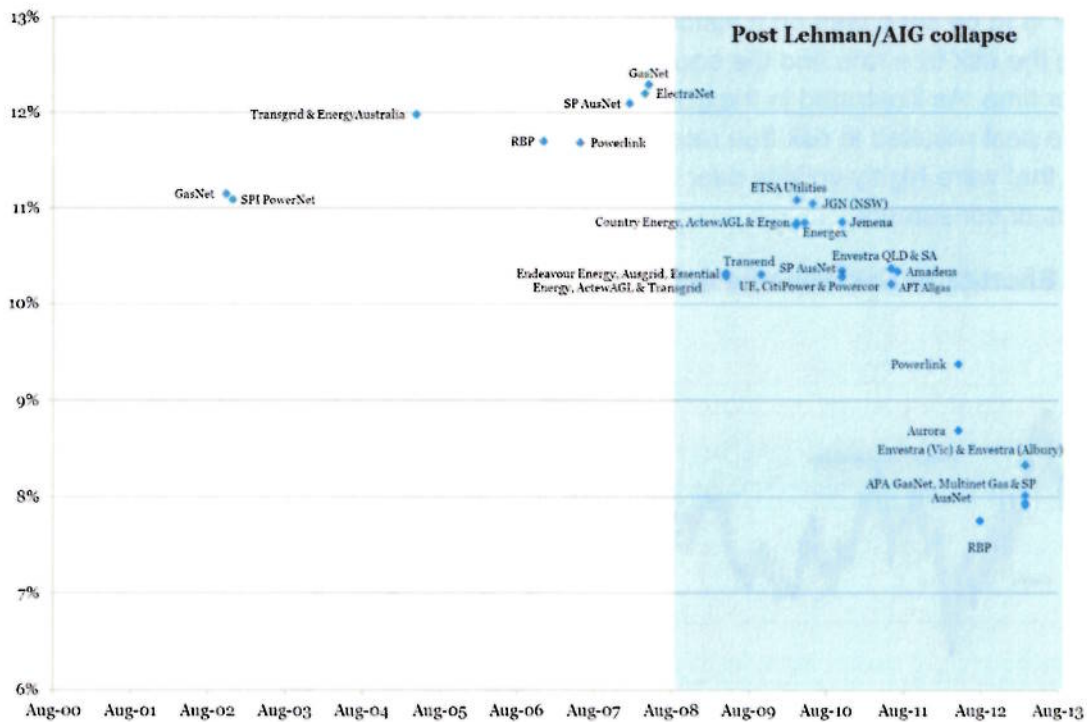
Source: CEG, Estimating E[Rm] in the context of recent regulatory debate, June 2013, p. 8.

PIAC has submitted that volatility in the cost of equity is inconsistent with what one would expect from regulated infrastructure businesses with long life assets.

> "Volatility might be expected in highly competitive markets such as the wholesale gas and electricity supply markets, but in these markets competitive forces and arbitrage drive prices to a more stable equilibrium over time.
>
> It is far more difficult to understand why prices for a non-competitive and relatively predictable service such as network services should be subject to such extremes both within and between regulatory periods.
>
> The new approach therefore should focus on achieving a more stable and predictable pricing and investment outcome.
>
> Given the information provided to date, PIAC is of the view that the historical averaging approach with no annual updating of the rate of return achieves the best balance between (a) stability of investment and pricing over time and (b) the long-term interests of consumers for these low risk, long-life asset businesses".[35]

The NSW DNSPs support the view that investors in regulated energy network firms are likely to prefer stable long term returns on invested equity. This can be achieved by populating the CAPM with parameters that reflect long term historical averages for those parameters.

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[35] PIAC, Submission on rate of return consultation paper, June 2013, p. 9.

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The AER's draft guideline proposes to rely on long-term historical data to estimate the market risk premium and the equity beta. It is reasonable and consistent with this to also rely a long-term estimate of the risk free rate to set the allowed rate of return on equity.

The NSW DNSP's also note that, to the extent that a short term estimate of the prevailing risk free rate is used in the CAPM, then adopting a historical average estimate of the real return on the market would provide more accurate estimate of the cost of equity than adopting a historical average estimate of the MRP.

In a report co-authored by Professor Bruce Grundy and Dr. Tom Hird, CEG demonstrated that the practice of estimating the expected return on the market as the prevailing CGS yield plus the historical difference between the average market return and average CGS yields will have the effect of introducing an unnecessary and potentially material source of bias. CEG showed that, if historical average values are going to be used to estimate the expected return on the market, then the expected return should simply be evaluated as the historical average realised return on the market. [36]

According to NERA's update to the Brailsford et. al.[37] data the average real realised return for the Australian market, inclusive of the value of imputation credits, from 1883 to 2011 is 8.84%.[38] Adding currently expected inflation of around 2.50% to the historical average realised real return on the market provides an estimate of the current real return on the market of 11.56%. Given the current risk free rate of 3.99% this would imply an MRP of 7.57%. Applying an asset beta of 0.82 this gives a cost of equity of 10.20% - very similar to the 10.44% calculated previously using the long run risk free rate and the long run MRP estimate.

Either approach (a long term risk free rate and a long term MRP or a long term return on the market and a short term MRP/risk free rate) provides similar and more stable estimates of the cost of equity than the AER's past approach (a short term risk free rate and a long term MRP). As demonstrated by Professor Grundy and Dr Hird, if only one long term average is to be used in populating the CAPM it should be the long term average return on the market.

We also note that relying on historical information is not inconsistent with estimating a forward looking cost of equity reflecting prevailing conditions in the market for funds. In its final Rule determination the AEMC specifically noted that the requirement to determine a rate of return that is commensurate with prevailing conditions is not meant to exclude from consideration historical or realised returns.[39]

The NSW DNSPs note that the AER's primary reliance on historical data to estimate the forward looking data has been based on highly volatile realised excess returns data (illustrated below). To deal with this volatility in data, the AER has used a long term average of historical excess premiums to estimate the forward looking market risk premium. It is reasonable and consistent with this approach to use a risk free rate estimate that is also based on a historic average to reduce the exposure of regulated businesses and consumers

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[36] CEG, Estimating the return on the market, June 2013.

[37] Brailsford, T., J. Handley and K. Maheswaran, *Re-examination of the historical equity risk premium in Australia*, Accounting and Finance 48, 2008.

[38] NERA, *The market, size and value premiums*, 2013.

[39] AEMC, Final rule determination, Economic regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, p. 66.

to short term fluctuations in yields on 10 year Commonwealth Government bonds (illustrated in the graphs above).

Figure 4: Historical realised excess market returns used to estimate the forward looking MRP

Historical Realised Market Risk Premium
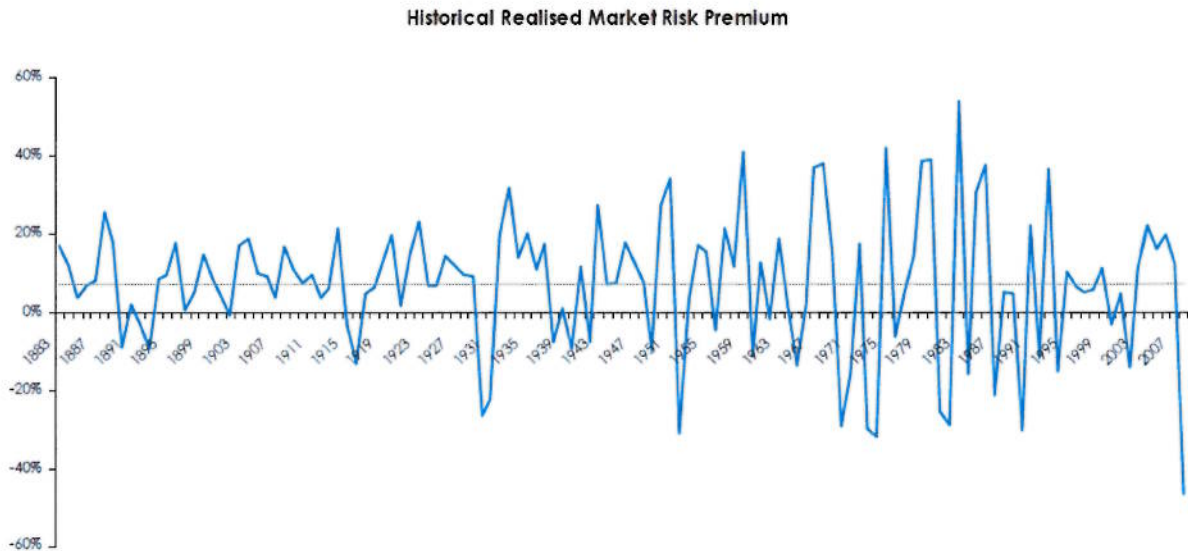
Source: Officer and Bishop, Market risk premium, further comments January, 2009, p. 4 as cited in AER, Final decision, APT Allgas access arrangement proposal for the Qld gas network, June 2011, p. 125.

Long term average is consistent with the Wright approach

The AER has stated that it will use the Wright approach to inform its final estimate of the cost of equity.[40] The NSW DNSPs suggested approach of combining a historic average risk free rate with a historic average market risk premium estimate, or simply adopting a historic average estimate of the return on the market, is consistent with the approach advocated by Professor Wright. Professor Wright stated:

> "my preferred approach to the market cost of equity could in principle be viewed as combining the AER's MRP estimate with an historic average risk-free rate".[41]

The AER has stated that there is no conclusive evidence on whether there is a negative relationship between the risk free rate and the market risk premium over time. However, this is not the most important point advanced by Professor Wright. Professor Wright has instead noted that the extent to which expected returns on equity are likely to vary over time must be relatively small.[42] We consider that our suggested approaches are likely to deliver an outcome consistent with investor expectations.

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[40] AER, Explanatory statement on draft rate of return guideline, August 2013, pp. 198-200.
[41] Wright S., Response to Professor Lally's Analysis, 2 November 2012, p. 3.
[42] Wright S., Response to Professor Lally's Analysis, 2 November 2012, p. 7.

Consistency with the approach to the cost of debt

The AER has recognised that a prudent approach to estimating the cost of debt is to use a trailing average approach based on historical data. The NSW DNSPs support this approach and consider that it is also reasonable when setting the allowed cost of equity. We also note that the cost of equity must always be higher than the cost of debt for the same firm. This is because, in the event of insolvency, debt holders have the first claim on the assets of the firm whereas equity holders only have a residual claim on the assets of the business. Debt holders also have a preferential claim on cashflows when a firm faces financial distress whereas equity holders must wear losses during such periods. Therefore the required return for equity investors is always higher than the required return for equity holders.

As noted by the ENA, if a firm defaults, debt holders may recover some of their investment, whereas equity holders are likely to lose their total investment. As a result it is reasonable to expect that the cost of equity will be materially higher than the cost of debt for the same firm. For example, Professor Bruce Grundy has estimated for the benchmark efficient energy network firm with 60% gearing, the equity risk premium should be approximately 2.66 times the debt risk premium.[43] The NSW DNSPs consider that our suggested approach maintains a reasonable difference between the cost of equity and the cost of debt.

Consistency with the approach of other regulators

UK and US regulators, including the UK energy regulator, Ofgem, apply the CAPM using long term estimates of the risk free rate.[44]

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[43] Grundy B., The calculation of the cost of capital, A report for Envestra, September 2010, p. 18.
[44] CEG, Internal consistency of risk free rate and MRP in the CAPM, A report prepared for Envestra, SP AusNet, Multinet and APA. March 2012. See section 6.