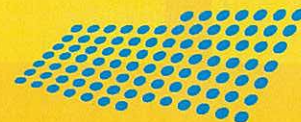


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24 September 2008

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

Email to: AERinquiry@aer.gov.au

Dear Mr Pattas,

EnergyAustralia's submission on AER's issues paper on WACC

The rate of return is the key incentive for attracting investment in regulated networks. If the rate of return is set too low, particularly during times of market uncertainty and volatility, businesses have no incentive to invest. Rather, investment is deferred (inefficiently) until market conditions or parameters improve sufficiently to encourage and reward investment.

In this regard, the AER should be mindful of the long term implications of this review and the likely consequences for investment. EnergyAustralia has a key interest in this review as the outcomes of the review (in terms of adopted parameters) will be applied to EnergyAustralia for the five year period ending in 2019.¹

The AER must be cautious in its decision making

EnergyAustralia cautions against an approach where individual decisions on rate of return parameters are made in isolation. We do not believe an optimal outcome will be achieved by trying to assign a 'best estimate' to each individual parameter in isolation. In fact, we note this would be inconsistent with the requirements of the National Electricity Rules (Rules). The Rules require a rate of return for distribution businesses to be:

"forward looking....commensurate with the **prevailing conditions in the market for funds and the risk involved in providing standard control services**".²

The capital asset pricing model (CAPM) is not an exact model for determining a rate of return for businesses but rather a tool that assists investment decision making. As such, there is no 'precise' answer for each parameter that the AER will review. The AER must therefore exercise caution in its regulatory judgement, particularly where it is considering changes in one parameter without subsequent changes in others.

¹ Under the Transitional Rules, the parameters currently in Chapter 6 of the Transmission Rules apply to EnergyAustralia for the 2009-14 period.

² Clause 6.5.4(e)(1) of the Rules (bold emphasised)

In some instances there is likely to be a range of values for a parameter, particularly where there is imprecise or insufficient empirical data. Under such circumstances, it would be unwise to simply choose an average of the available observations or determine the likely value through a statistical tool. Instead, the Rules require the AER to have regard to previous values or methods adopted and only move away from these if there is persuasive evidence.

EnergyAustralia notes that the previous adopted values and methods for NSW and ACT distribution businesses are prescribed in the transitional Rules. These parameters replicate those adopted for transmission businesses. EnergyAustralia would expect the AER to exercise caution in moving away from these values and methods in the transitional Rules, except to the extent required to account for differences in risk attributed to a distribution business.

Recognising the prevailing conditions in the market for funds

In practical terms, the regulated sector will compete for investment funds in a tightening financial market. Financial markets are undergoing significant structural adjustment, reducing the availability of finance to fund investment. This is driven, in part, by a depressed appetite in the market to finance businesses with higher than average debt levels.

EnergyAustralia recognises that shifts in financial markets are to some extent captured in the parameters in the CAPM, for instance the debt risk premium. However, historic observations of individual CAPM parameters will not fully capture the practical difficulties that businesses will experience going forward in obtaining equity and debt to invest. These difficulties are magnified as the level of required investment and the amount of funds being sought grows across the sector.

It is unclear whether the existing global financial turmoil is a temporary aberration or will have long term structural implications for the ability of regulated businesses to finance their investment needs. The volatility in financial markets and the consequential risks to the utilities sector, characterised by relatively high financial leverage compared to the market average should also be carefully considered in the AER's review.

Recognising the risk involved in providing standard control services

The existing uncertainty in debt and equity markets comes at a time when substantial investment is required to maintain electrical networks. This is required to provide reliable supply to both businesses and households in Australia and to support Australia's export market.

There are inherent risks associated with investment in a regulated distribution business which should be reflected in its required rate of return. Large upfront investments have long payback periods of 40 to 50 years with returns on this investment subject to 8 to 10 regulatory decisions. EnergyAustralia's own experience has been that the regulatory arrangements applying to its network business have not yet been consistent for two consecutive periods. This history of change and potential for future change brings uncertainty and regulatory risk that must be considered in this review.

A five year regulatory determination process also exposes EnergyAustralia to risks (volatility) in revenue and costs driven by economic circumstances largely outside of its control. This is particularly the case for EnergyAustralia which is regulated under a Weighted Average Price Cap (WAPC) control mechanism that caps returns on the basis of forecast revenues and volumes. Businesses regulated by a WAPC face 'volume risk' of lower revenue if the growth in energy consumed is lower than what is forecast at the time of a regulatory determination.

A larger proportion of energy distributed through EnergyAustralia's network is driven by business use and as a result, EnergyAustralia's revenues are more directly linked to economic activity and the risks associated with an economic slow down. Preliminary data suggests that growth in energy consumption in EnergyAustralia's network

for 2007-08 has been lower than forecast at the time of the last determination. This has resulted in a significant shortfall in revenue as a result of the framework not being flexible to respond to external factors such as customer demand. The co-occurrence of lower growth in energy volume (which relates to revenues) but higher growth in peak demand (which drives cost) makes forecasting more difficult and outcomes more volatile.

At the same time, regulated businesses under an ex-ante framework are exposed to the risk of being unable to recover efficient costs in a regulatory period if either capex or opex is higher than the approved amounts in the regulatory determination. This would occur if there is a spike in economic activity that drives a prudent business to investment in more capital than the level forecast at the time of the determination. It could also arise if the price of materials and labour rises unexpectedly as was evident in EnergyAustralia's 2004-09 regulatory period.

The risks faced by EnergyAustralia are magnified by the size of the investment program EnergyAustralia must undertake over the next decade to avoid breaching its licence obligations and to avoid poor network performance.

In addition, the size of the proposed investment program has particular implications for our financing arrangements including equity and debt raising issues in a tightening financial market. Specifically, EnergyAustralia would not be able to secure its RAB refinancing and capex program financing needs over a 15 to 40 day period as assumed by the regulatory framework due to the magnitude of its investment requirements.

While EnergyAustralia supports the ongoing use of the "averaging period" for setting the risk free rate and debt risk premium, the regulatory framework should recognise the practical and commercial issues of raising capital and the limitations of the simplified financing assumption in the regulatory framework. The underlying difficulty in raising corporate debt in the current financial environment and the costs of doing so is also of particular relevance to EnergyAustralia and its investment program.

EnergyAustralia requests that the AER give consideration to the issues raised in this submission that set the context for the review. In addition, our response to issues raised in the AER's consultation paper is set out in Attachment A. EnergyAustralia's responses draw on the research and findings of experts commissioned by the Joint Industry Associations. Should you have any questions in relation to this submission, please contact Ms Catherine O'Neill on (02) 9269 4171.

Yours sincerely



Trevor Armstrong
Executive General Manager (Acting)
System Planning and Regulation

Attachment A: EnergyAustralia's response to the general issues raised in the AER's issues paper

<p>Issues paper: Chapter 2 - Multiparameter</p>	<p>EnergyAustralia's response</p>
<p>The AER should continue to estimate the WACC from domestic data.</p>	<p>The AER must have regard to the 'market for funds' when undertaking its review of rate of return parameters (Clause 6.5.4(e)(1) of the NER). The 'market for funds' is influenced by domestic and international investors and is best considered with reference to the Australian domestic capital market. For instance, empirical domestic data on the risk free rate, market risk premium, equity beta and gamma parameters reflect the influence of domestic and international investors on the 'market for funds'.</p>
<p>The existing values for parameters in the CAPM are internally consistent with the exception of the market risk premium and gamma.</p>	<p>EnergyAustralia cautions against an approach where individual decisions on rate of return parameters are made in isolation. We do not believe an optimal outcome will be achieved by trying to assign a 'best estimate' to each individual parameter in isolation.</p> <p>In this regard, EnergyAustralia accepts the view put forward in the AER's issues paper regarding the inter-relatedness of WACC parameters. For example, we note that the previously adopted value for the equity beta is 1.0 but that this value is dependent on the value of the gearing ratio of 0.6 (which is significantly higher than the market average).</p> <p>While we consider that the previously adopted values in the Rules are internally consistent, there is persuasive evidence that the existing value of MRP was developed without consideration for the value of imputation credits. This is discussed further in our comments responding to issues in Chapter 5 of the AER's Issues Paper (see comments relating to Chapter 5 below).</p> <p>We also note in our comments relating to matters in Chapter 7 of the AER's Issues Paper that recent financial market events and increasing volatility faced by distribution businesses may warrant a downwards revision of the current credit rating assigned to distribution businesses.</p>
<p>The sample of firms used to measure the 'benchmark efficient service provider' will be different for each parameter being considered.</p>	<p>The AER must have regard to a 'benchmark efficient service provider' for parameters that vary according to the efficiency of the DNSP (Clause 6.5.4(e)(3) of the NER).</p> <p>The appropriate benchmark or 'sample of firms' will not be identical for each parameter. Certain parameters such as gamma require a broader range of firms upon which to base estimates, while other parameters will require a sample of firms that are specific to the industry. It follows that the AER must use regulatory judgement in determining the best benchmark to estimate each of the parameters.</p>
<p>Chapter 3 - Gearing</p> <p>The previously adopted value of debt as a proportion of the value of equity and debt (gearing ratio) is 60% for EnergyAustralia.</p>	<p>Clause 6.5.4(e)(4) of the NER requires the need for persuasive evidence to move away from the value of debt as a proportion of the value of equity and debt previously adopted for EnergyAustralia in the Rules. Transitional Rules applying to EnergyAustralia's 2009-14 determination prescribe this value to be 0.6 (Clause 6.5.2).</p>

<p>There is no persuasive evidence that the previously adopted benchmark debt gearing ratio of 60 per cent is inappropriate.</p>	<p>EnergyAustralia notes the research conducted on behalf of the Joint Industry Associations by Allens Consulting Group (ACG) which found that the appropriate benchmark of comparable businesses (APA Group, Envestra, SP AusNet and Spark Infrastructure) have an average gearing ratio (Book Debt/Book Debt and Market Equity) of around 60 per cent over the last five years.³</p> <p>We also observe that ACG referred to the Standard & Poor's book gearing ratio (Total Debt/Total Capital) for all rated energy transmission and distribution businesses which has an average of approximately 60 per cent gearing between 2004 and 2008.</p>
<p>Any change in the adopted gearing ratio would in itself be likely to be persuasive evidence that the current adopted credit rating and the equity beta value would be incorrect.</p>	<p>As noted in our response to issues raised in Chapter 2 of the Issues Paper, the gearing ratio is inter-related to the value of the equity beta. Any change in the value of the gearing ratio would imply a higher value for the equity beta. Further, an increase in the gearing ratio would lower the credit rating of a regulated business. The inter-related nature of these parameters demonstrates the importance of an holistic consideration of the WACC parameters.</p>
<p>Chapter 4 – Nominal risk free rate</p>	
<p>The previously adopted method to determine the nominal risk free rate includes the use of the annualised yield on Commonwealth Bonds with a maturity of 10 years.</p>	<p>Clause 6.5.4(e)(4) of the NER requires the need for persuasive evidence to move away from the method for the nominal risk free rate. Transitional Rules applying to EnergyAustralia's 2009-14 determination prescribe the use of annualised yield on Commonwealth Bonds with a maturity of 10 years.</p>
<p>There is no persuasive evidence to move away from the existing method to set the nominal risk free rate using a 10 year maturity date proxy.</p>	<p>EnergyAustralia does not consider there is any persuasive evidence to move away from the method in the transitional Rules which uses a 10 year maturity period as a proxy for the risk free rate.</p> <p>An alternative approach which uses a 5 year maturity date for CGS bonds as a proxy for the risk free rate is inferior to the previously adopted method (using 10 year CGS bonds). Evidence put forward by Officer and Bishop (2008)⁴ in a study commissioned by the Industry Associations concludes that the annualised yields of ten year bonds are a better proxy for the risk free rate:</p> <ul style="list-style-type: none"> • It would be inconsistent to use five year bonds when regulators have used 10 year bonds for the MRP. As noted by Officer and Bishop, "mixing the short term rate as the proxy for the risk free rate with a MRP estimated from historical data using the yield on a ten year maturity bond will, on average understate the required cost of capital."⁵ • The ten year market for bonds is deeper than for 5 year bonds. This means that more reliance can be placed on the 10 year yields as a proxy for the risk free rate. Officer and Bishop noted that: "the primary market for treasury bonds is deepest at the long end".⁶ • The yield on a five year maturing bond is more volatile than on a ten year maturing bond. For instance, Officer and Bishop demonstrate that the standard deviation is higher for 5 year bonds compared to 10 year bonds over

³ Joint Industry Associations, *Network Industry Submission: AER Issues Paper: Review of the Weighted Average Cost of Capital (WACC) parameters for electricity transmission and distribution*, September 2008, p27 ("The Joint Industry Association submission")

⁴ Officer and Bishop, *Terms of the risk free rate: Commentary*, September 2008.

⁵ *Ibid*, p 11.

⁶ *Ibid*, p14.

	<p>the period 1972 to 2008.⁷ This would increase the volatility of the rate of return at different points in time.</p> <ul style="list-style-type: none"> • The average shape of the yield curve between 5 year and 10 year bonds is relatively flat. Officer and Bishop provide evidence to suggest that the average difference between the historical yield for five and ten year bonds was only 18 basis points.⁸
<p>Chapter 5 – Market Risk Premium The previously adopted value of Market Risk Premium (MRP) is 6.0% for EnergyAustralia</p>	<p>Clause 6.5.4(4) requires the need for persuasive evidence to move away from the Market Risk Premium previously adopted for EnergyAustralia in the Rules. Transitional Rules applying to EnergyAustralia's 2009-14 determination prescribe the Market Risk Premium of 6.0% (Clause 6.5.2).</p>
<p>Assuming that the value of gamma is changed, there is no persuasive evidence to move away from the previously adopted value of MRP of 6 per cent.</p>	<p>EnergyAustralia considers that market observations of MRP are imprecise. The research put forward in the Joint Industry Associations submission indicates that the MRP is within the range of 6 and 7 per cent. Moreover, recent data from Officer and Bishop suggests a value of MRP which is significantly higher than 6 per cent. Given the imprecision of the measurement of MRP, the AER should adopt a cautious approach in moving away from the previous value.</p> <p>A significant issue raised by the Joint Industry Associations is that the previous value of MRP has not included any consideration of the value of gamma. EnergyAustralia notes the evidence put forward by Officer and Bishop in a paper commissioned by the Joint Industry Associations which found that "...the market risk premium of 6% was originally based on evidence that excluded any explicit consideration of a component to reflect any value of imputation tax benefits in the historical MRPs".⁹ Officer and Bishop found that:</p> <ul style="list-style-type: none"> • the MRP is 6.7 per cent if the value of gamma is 0.0. • the MRP is 7.1 per cent if the value of gamma is 0.5. <p>Officer and Bishop noted that: "The inclusion of an estimate of the imputation tax benefits in the historical estimate of market equity returns forms the basis of our recommendation that the MRP be increased from 6% to 7%."¹⁰</p> <p>EnergyAustralia considers that the Officer and Bishop paper provides persuasive evidence for the AER to move away from the previous value of MRP of 6 per cent to a new value of 7 per cent where a material value for gamma is adopted by the AER.</p> <p>However, EnergyAustralia notes that there is persuasive evidence to demonstrate that the value of the gamma should move from 0.5 to 0.2. This evidence is set out in our response to matters raised in Chapter 8 of the AER's Issues Paper (see below). If this is accepted by the AER there would be no persuasive evidence to move away from the value of 6.0 for the MRP.</p>

⁷ Please refer to table 2(p42) in the Joint industry Association submission.

⁸ Officer and Bishop, *Terms of the risk free rate: Commentary*, September 2008, p11

⁹ Officer and Bishop, *Market Risk Premium: A review paper*, p. i (Conclusion)

¹⁰ *Ibid.*, p 39.

Chapter 6 – Equity beta	
The previously adopted value of equity beta is 1.0 for EnergyAustralia	Clause 6.5.4(4) requires the need for persuasive evidence to move away from the equity beta previously adopted for EnergyAustralia in the Rules. Transitional Rules applying to EnergyAustralia's 2009-14 determination prescribe an equity beta of 1 (Clause 6.5.2).
There is no persuasive evidence to move away from an equity beta value of 1.0.	<p>EnergyAustralia does not consider there is any persuasive evidence to move away from the value for equity beta in the transitional rules.</p> <p>Analysis of Australian empirical data provides a wide range of values for the equity beta, which includes observations between -1.59 and 2.49.¹¹ This would indicate that the range of risk could be less than the risk free rate or more than double the risk of the market.</p> <p>We therefore support evidence put forward by the Industry Associations on the unreliability of Australian data when estimating equity betas for regulated firms. We consider there are 'first principles' arguments for an equity beta of 1 that have been supported by regulators in the past (including the ACCC since 1999) and which continue to be appropriate.</p>
The WAPC control mechanism that applies to EnergyAustralia results in higher operational risk due to the inherent 'volume risk' under this mechanism.	EnergyAustralia is subject to a control mechanism that caps returns on the basis of forecast revenues and volumes (Weighted Average Price Cap (WAPC)). Businesses under a WAPC face 'volume risk' of lower revenue if the growth in energy consumed is lower than what is forecast at the time of a regulatory determination. Businesses also face the risk that a regulator may adjust its forecast of energy during a regulatory determination – a forecast that is imposed on the business and can have significant implications for revenues which are binding.
Chapter 7- Credit rating levels	
The previously adopted credit rating is BBB+ for EnergyAustralia.	Clause 6.5.4(4) requires the need for persuasive evidence to move away from the Credit Rating previously adopted for EnergyAustralia in the Rules. Transitional Rules applying to EnergyAustralia's 2009-14 determination prescribe the Credit Rating of BBB+ (Clause 6.5.2).
There is no evidence to adopt a credit rating level greater than BBB+. A BBB rating would appear reasonable if the AER were to take into account the risk profile of EnergyAustralia given the significant changes in financial markets.	<p>As noted in the Joint Industry Association's submission, at this stage there is no persuasive evidence to depart from the previously adopted benchmark credit rating of BBB+.¹²</p> <p>As noted in our covering letter, changing environments for sourcing debt and equity as well as increasing risk exposure in EnergyAustralia's service provision suggest any movement in credit rating is likely to be downward. This assumes no change in other parameters.</p>

¹¹ Allens Consulting Group, *Beta for Regulated electricity and transmission*, 17 September 2008.

¹² The Joint Industry Association submission, p108.

<p>Chapter 8 – Assumed utilisation of imputation credits (gamma)</p>	<p>The previously adopted value for the assumed utilisation of imputation credits for EnergyAustralia is 0.5.</p>	<p>There is persuasive evidence to move away from the previous value of gamma. The persuasive evidence demonstrates that the value of gamma is 0.2.</p>	<p>Clause 6.5.4(4) requires the need for persuasive evidence to move away from the assumed value of imputation credits previously adopted for EnergyAustralia in the Rules. Transitional Rules applying to EnergyAustralia's 2009-14 determination prescribed the value of 0.5 (Clause 6.5.2).</p> <p>The gamma can be calculated by multiplying the value of the distribution rate by the value to investors of imputation credits at the time they are received (theta).</p> <p>The most robust current estimate of the market-wide distribution rate is 0.71 as calculated by Hathaway and Officer (2004). The use of a market average distribution rate implicitly assumes that on average, regulated electricity utilities have a similar distribution rate as all firms operating in Australia. This appears reasonable given the evidence put forward in the Industry Associations submission that:</p> <ul style="list-style-type: none"> • It is unclear whether the dividend rate of a benchmark regulated electricity utility would be higher or lower than the average of all other firms in the market. • There is no compelling industry benchmark that can be used at this time. <p>The current empirical evidence supports a value for Theta that ranges from 0.2 to 0.35. This was based on Strategic Finance Group's (SFG)¹³ paper commissioned by the Joint Industry Associations which noted that pre-2000 data should be included in the calculation of Theta.</p> <p>The value of gamma based on the above empirical evidence is within the range of 0.15 and 0.25. (That is: 0.71×0.2 to 0.35) A reasonable point estimate based on this range is 0.2.</p>
<p>There is further evidence to suggest that investors do not value cash dividends at their face value.</p>	<p>EnergyAustralia notes that SFG correctly identified that the CAPM presumes that investors value dividends at their face value. The empirical evidence provided by SFG challenges this presumption based on the empirical data which demonstrates that investors do <u>not</u> value cash dividends at their face value.</p> <p>Based on this evidence, we note that there is strong argument to support an adjustment to the CAPM parameters to compensate for this error.</p>		
<p>Chapter 9 – Forecast inflation Forecast inflation is not a matter subject to review under 6.5.4 of the Rules.</p>	<p>EnergyAustralia accept that there are benefits in assessing forecast inflation in the context of rate of return parameters. However, we recommend the AER separate the process and outcomes of any review of inflation from the specific process and outcomes of the review of rate of return.</p>		

¹³ Strategic Finance Group. The impact of franking credits on the cost of capital for Australian firms, 16 September 2008.

<p>There is no method to forecast inflation based on observable market information at this time.</p>	<p>At this time that there is no credible market based method to forecast inflation. In particular, there is growing evidence that suggests the application of the Fisher equation to CGS bonds results in upwardly biased estimates of inflation. Further, the inflation rate swap market cannot be used to observe reliable estimates of inflation as it is inextricably linked to current conditions in the market for CGS. This results in upwardly biased estimates of inflation.</p>
<p>The AER should continue its current approach to use a range of indicators to assess the proposed approach to forecast inflation put forward by a network service provider in a regulatory proposal.</p>	<p>In the absence of credible market based method, the approach to forecast inflation should be a matter that is proposed by a network service provider as part of its regulatory proposal. The AER should make an assessment of the proposed approach as part of the regulatory determination.</p>
<p>The AER should take into account other recognised forecasters apart from the RBA when assessing a network service provider's proposal.</p>	<p>The AER has applied a narrow approach to determine the forecast inflation rate in recent determinations by solely relying on the forecasts of the RBA. The AER should take into account the forecasts of macroeconomic experts if proposed by a network service provider. Such an approach recognises that a larger sample size will reduce forecasting error.</p>
<p>Chapter 10 – Debt and equity raising costs</p>	
<p>Debt and equity raising costs is not a matter subject to review under 6.5.4 of the Rules.</p>	<p>EnergyAustralia accepts that there are benefits in assessing debt and equity raising costs in the context of rate of return parameters. However, we recommend the AER separate the process and outcomes of any review of debt and equity raising costs from the specific process and outcomes of the review of rate of return.</p>
<p>EnergyAustralia considers that debt and equity costs are costs that are incurred by an efficient and prudent DNSP and should be recognised as opex or capex costs.</p>	<p>This has been recognised by regulators in previous determinations.</p>
<p>The AER should assess the equity and debt raising costs proposed by a network service provider in its regulatory proposal.</p>	<p>This approach is consistent with the decisions the AER must make on the required capex and opex proposed by a network service provider in a regulatory determination.</p>