

Partner Nick Taylor
T +61 2 9263 4255
ntaylor@gtlaw.com.au
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Energy Networks Australia
Level 3
40 Blackall Street
CANBERRA ACT 2600
AUSTRALIA

Gilbert + Tobin

2 Park Street
Sydney NSW 2000
Australia

GPO Box 3810
Sydney NSW 2001

T +61 2 9263 4000
F +61 2 9263 4111

DX 10348 SSE

www.gtlaw.com.au

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Dear Members

Request for advice – AER review of the WACC parameters

On behalf of the Energy Networks Association, Grid Australia and Australian Pipeline Industry Association (the **Industry Associations**) you have requested advice in relation to the AER's review of the WACC parameters.

Under clauses 6.5.4 and 6A.6.2 of the National Electricity Rules (**Rules**), the Australian Energy Regulator (**AER**) is required to review a number of matters relating to various rate of return parameters for electricity distribution and transmission respectively. For distribution businesses, the outcome of the review is the issuing by the AER of a statement of regulatory intent which adopts values, methodologies and / or credit rating levels for service providers. For transmission businesses, the values, methodologies and / or credit rating levels adopted by the AER must be used for the purposes of a Revenue Proposal that is submitted to the AER under clause 6A.10.(a).

The Industry Associations have sought advice from Gilbert + Tobin on the AER's review of the relevant rate of return parameters. In particular advice is sought on:

- the substantive decision making framework that should be used by the AER in exercising its judgement including:
 - how the AER is guided by the National Electricity Law (**Law**) and the Rules in undertaking its assessment of the substantive matters in the review, including the role of the national electricity objective and the revenue and pricing principles;
 - the factors that the AER is required to take into account under the Rules, in particular the need for 'persuasive evidence' before adopting a value for a parameter that differs from the value that has previously been adopted for it, and how this should be applied in the context of the review;
 - whether the principle that the rate of return be a forward looking rate of return that is commensurate with prevailing conditions in the market for funds and the risk involved in providing the relevant services would permit a departure from the methodology that has most commonly recently been applied in the CAPM in circumstances where it does not meet that objective; and

- the key implications of the substantive decision making framework for the AER's review of the WACC parameters.

Please find attached our opinion.

Yours sincerely



Nick Taylor

T +61 2 9263 4255

ntaylor@gtlaw.com.au

OPINION

1 Executive Summary

Clauses 6.5.4(b) and 6A.6.2(g) of the National Electricity Rules (**Rules**) empower the Australian Energy Regulator (**AER**) to conduct its first review of the rate of return parameters for both distribution and transmission and this is to be completed by 31 March 2009.

This opinion has been prepared for the Energy Networks Association, Grid Australia and the Australian Pipeline Industry Association (the **Industry Associations**).

This opinion concerns:

- the legal framework in its review of the WACC parameters; and
- the application of the 'persuasive evidence' test.

1.1 The substantive decision making framework

The AER is empowered to exercise regulatory judgment in the determination of WACC parameter values (and methodologies) and their application in relevant network determinations and the exercise of that judgment (sometimes referred to as discretion) must take place within the legal framework of the Rules and the National Electricity Law (the **Law**).

The essential elements of the Rules and Law require the AER to:

- provide for a rate of return by:
 - applying a specified form of capital asset pricing model (**the CAPM**) to estimate the cost of equity;
 - deriving the cost of debt as the sum of the nominal risk free rate and a debt risk premium, and applying methods for the determination of the risk free rate and certain parameter values for the debt risk premium;
 - deriving the rate of return based on a specified weighted average of the costs of equity and debt;
 - making an allowance for the cost of corporate tax which takes account of the value of imputation credits;

(referred to herein as the parameter values (or methods));

- periodically reviewing these parameter values (or methods);
- in that review, selecting each parameter value (or method) such that the rate of return that would be derived equates to the 'cost of capital' associated with the regulated activities, taking account of the relative risk of the regulated activities;
- adopting values (or methods) when applied during a price review, generate a forward looking rate of return commensurate with prevailing market conditions for funds;
- ensuring that the rate of return **at least** equates to the true cost of capital; and
- having regard to the costs and risks of under and over investment and utilisation that may be caused by its decision in relation to the values (or methods).

Key implications of this framework, in our opinion, are:

- the AER is not required to select the 'central' estimate for each parameter, but rather may adopt a parameter estimate that differs from the central estimate. For example where there is a reason to suppose that a parameter is more likely to fall on the high side than the low side, then it would be appropriate to adopt a higher figure than the centre point;
- if the CAPM can be applied consistent with the Rules in two ways and one delivers an unbiased result and the other does not, then the former should be preferred;
- if the evidence is that estimating the inputs into and applying the CAPM in a particular manner does not result in the rate of return equating to the cost of capital, then the AER should instead prefer an alternative application by which the rate of return does at least equate to the cost of capital. Further, if the CAPM cannot deliver an opportunity to recover at least the cost of capital then it may be necessary to consider whether adjustments can be made (consistent with the Rules) to other aspects of the economic regulatory framework applied by the AER; and
- if the evidence is that the risks and costs of under and over investment and under and over utilisation are asymmetric, then the AER should not adopt an approach

which results in a mid point estimate of the rate of return, which approach implies an even distribution of risks and costs for under and over investment.

These implications lead to the following as a suitable approach to decision making:

- As a starting point, the AER estimates the parameter values (or ranges) in a conventional manner. These values can only be estimated with imprecision, and so the true figure for each input could only be determined within a range.
- The AER then needs to consider how those values will be applied in a rate of return that:
 - **at least** recovers the cost of capital; and
 - reflects relevant under and over investment risk,when selecting the 'point' rate of return from within the range – and, when determining the input parameters or methods. These matters must be taken into account when selecting each individual parameter or method.
- The AER needs to consider any other evidence presented as to whether the overall rate of return provides a return equal to the cost of capital (e.g., estimates from other models for estimating costs of capital, benchmarks set by other regulators, theoretical argument, etc).
- If the AER considers that using CAPM parameters as conventionally estimated will not result in a return that at least equates to the cost of capital, then it must vary the input assumptions or methods to ensure that the rate of return does at least equate to the cost of capital.
- This approach may result in the input assumptions or methods being outside of the range for the relevant parameter that is estimated in the conventional manner.

1.2 The persuasive evidence test

In respect of individual parameter values for beta, gamma, market risk premium, gearing, bond maturities and credit rating levels (in relation to the debt risk premium), and the method for the determination of the risk free rate methods where they cannot be determined with certainty:

- the Rules put in place an inertia principle (the need when values cannot be discerned with certainty for 'persuasive evidence' to justify any change in the parameters) which gives precedence to the parameters previously adopted;

- such evidence may comprise empirical observation and expert opinion which logically tends to establish the value; and
- the AER must adopt an approach to the review that properly gives effect to the inertia principle. An approach that requires, before departing from an existing parameter, evidence that the previous value was incorrect or likely to be incorrect would be appropriate because it is consistent with the language of the Rules and gives substantive and real effect to the requirement for “persuasive evidence”.

2 Substantive Decision-Making Framework

2.1 Parameters and methodologies that will be considered in the review

In undertaking its review, the AER’s task is to consider both the values of and the methodologies used to calculate the following WACC parameters¹:

- the nominal risk free rate;
- the equity beta;
- the market risk premium;
- the maturity period and bond rates;
- the ratio of the market value of debt to the market value of equity and debt;
- the credit rating levels; and
- the assumed utilisation of imputation credits (gamma).

2.2 Matters to be taken into account by the AER in conducting the review

The Law and Rules specify the factors that the AER must take into account in conducting its review into the rate of return parameters for electricity distribution and transmission.

Clauses 6.5.4(e) and 6A.6.2(j) of the Rules provide that, in setting the rate of return parameters for distribution and transmission, the AER must have regard to:

- 1 the need for the rate of return to be a forward looking rate of return that is commensurate with prevailing conditions in the market for funds and the risk involved in providing regulated services;

¹ Clauses 6.5.4(d) and 6A.6.2(i) and 6A.6.4(d), *National Electricity Rules*

- 2 the need for the return on debt to reflect the current cost of borrowings for comparable debt;
- 3 the need for the credit rating levels or the values attributable to, or the methodologies used to calculate, the relevant parameters that vary according to the efficiency of the service provider² to be based on a benchmark efficient service provider; and
- 4 where the credit rating levels or the values that are attributable to, or the methodologies used to calculate the parameters cannot be determined with certainty:
 - (i) the need to achieve an outcome consistent with the national electricity objective; and
 - (ii) the need for persuasive evidence before adopting a credit rating level or a value for, or a methodology used to calculate, that parameter that differs from the credit rating level, value or methodology that has previously been adopted for it.

Of these four factors, the first is relevant to all of the parameters.

The second factor relates to the cost of borrowings for comparable debt and, in our view, emphasises the need (consistent with the first factor) for a methodology for the assessment of the risk free rate and bond maturity and credit rating parameters in the debt risk premium which is current at the time of the relevant network determination.

The third factor, that is the need for the credit rating levels, values attributable to or the methods of calculating the rate of return parameters that vary according to the efficiency of the service provider, be based on a benchmark efficient service provider, applies in all situations where the relevant input value may be influenced by a service provider's decisions, and requires that in these situations the effect of the service provider's actual decisions should not be decisive and instead the parameter or method for deriving a parameter that results in an input value that is consistent with the decisions of a 'benchmark efficient' service provider should be used. The input parameters or methods that may be affected by the efficiency of a service provider's decisions are:

- the gearing level, which is in large part a direct choice of the relevant firm;

² Clause 6.5.4(e)(iii), in relation to distribution services is in these terms, whereas clause 6A.6.2(j)(iii), refers specifically to the following parameters: equity beta, maturity period and bond rates, the gearing ratio, and credit rating level.

- the debt risk premium, given that decisions about the form and term of debt will influence directly the debt risk premium, and the perceived efficiency of management will influence the credit rating that the firm is able to maintain for a given gearing level, again influencing the debt risk premium; and
- the assumed utilisation of franking credits, in particular, the proportion of franking credits that are created in any year that are assumed to be distributed to, and used by, relevant shareholders.³

The fourth factor applies when the relevant levels, values or methodologies cannot be determined with certainty. This is likely to apply for all elements of the cost of capital. In these circumstances, the AER must consider the NEL objective and the persuasive evidence element (which is discussed further in section 4).

In relation to the NEL objective which must be considered where the relevant elements of the cost of capital can not be determined with certainty, it is noted that the Law generally sets out a range of more general considerations which the AER must take into account in reviewing the rate of return parameters. In exercising its economic regulatory functions or powers, including its power to review the rate of return parameters discussed in Chapter 6 and 6A of the Rules, the AER must consider both the national electricity objective and the revenue and pricing principles set out in the Law.

Under the Law, the AER must adopt rate of return values and methodologies which will be or are likely to contribute to the achievement of the national electricity objective⁴. Section 7 of the Law defines this objective as being:

“to promote efficient investment in, and efficient operation and use of, electricity services for the long term interest of consumers of electricity with respect to –

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system.”

Therefore, the values and methodologies adopted by the AER must promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the national electricity system. Because the WACC concerns the return on capital employed, of the various aspects of the objective the WACC parameters most directly affect the issue of whether efficient investment is promoted. In exercising its

³ Clause 6A.6.2(j)(3) specifically refers to the parameters that the third factor should apply to while clause 6.5.4(e)(3) does not.

⁴ Section 16(1), *National Electricity Law*

functions and powers, the AER should “be guided by an objective of efficiency that is in the long term interest of consumers”⁵.

In reviewing the rate of return parameters and the method of their calculation, in our opinion the AER should also take into account the revenue and pricing principles identified in s 7A of the Law. Under s 16(2)(a) of the Law, the AER must consider the revenue and pricing principles, if it is exercising a discretion in making those parts of a distribution or transmission determination relating to prescribed network services and direct control network services. The AER’s WACC review is an important complement to the business specific distribution or transmission determinations and the regulatory structure provides for the values and methodologies adopted by it in the Review feed into later business specific determinations. Therefore, the AER should in our opinion consider those principles in determining the appropriate rate of return values and methodologies.

The revenue and pricing principles require that:

- (a) network service providers be provided with a reasonable opportunity to recover at least the efficient costs the service provider incurs in providing services, complying with regulatory obligations or making regulatory payments;
- (b) network service providers be provided with effective incentives in order to promote economic efficiency with respect to prescribed network services and direct control network services provided by the operator and:
 - (i) efficient investment in a distribution or transmission system through which the operator provides prescribed network services and direct control network services;
 - (ii) the efficient provision of electricity services; and
- (c) the AER consider the regulatory asset base adopted in any previous distribution or transmission determination, decision under the National Electricity Code, jurisdictional electricity legislation regulating the revenue earned or prices charged by a person providing services, or the Rules;
- (d) any risks involved in providing prescribed network services and direct control network services be appropriately compensated by allowing prices and charges for those services to include a return commensurate with the regulatory and commercial risks involved in providing them;

⁵ P Holloway, Second Reading Speech accompanying the *National Electricity (South Australia) (National Electricity Law – Miscellaneous Amendments) Amendment Bill*, 16 October 2007

- (e) the AER consider the economic costs and risks of the potential for under and over investment by a regulated service provider in its prescribed network services and direct control network services; and
- (f) the AER consider the economic costs and risks of the potential for under and over utilisation of a service provider's prescribed network services and direct control network services.

The revenue and pricing principles set out above, clearly overlap, and all except (c) potentially have application to the estimation of the rate of return parameters, including:

- clause (a), which requires that network services providers recover at least efficient costs would require the rate of return to at least compensate for the economic costs associated with the risk that is borne in providing the regulated services;
- clause (b), which requires network service providers to be provided with an incentive to promote economic efficiency, would permit the argument that the incentive to invest requires the rate of return to be of sufficient magnitude to attract capital;
- clause (d) requires expressly that, amongst other things, the rate of return must compensate for the regulatory and commercial risks of providing those services; and
- clauses (e) and (f) would require the AER to consider whether the level at which the rate of return was set would affect the economic costs and risks of under and over investment or utilisation of prescribed network services and direct control network services.

3 Key Implications

3.1 Implications of the application of NEL Objective and Revenue and Pricing Principles

The rate of return is a key input in regulating the revenues that may be earned by transmission and distribution businesses. The review of the WACC parameters is critical to establishing a rate of return and therefore revenue cap determination that is consistent with the national electricity objective and the revenue and pricing principles. Each element of the building blocks (in this case the WACC parameters) must be consistent with the specific requirements of clauses 6.5.2, 6.5.3, 6A.6.2 and 6A.6.4; and promote the national electricity objective taking into account the relevant revenue and pricing principles. This section considers what this means for the parameters under review.

Under clauses 6.5.2(b) and 6A.6.2(b) of the Rules, provides that the AER will:

- calculate the rate of return as a post-tax nominal weighted average cost of capital according to a prescribed formula. In this context, the provisions define the “rate of return” as “the cost of capital as measured by the return required by investors in a commercial enterprise with a similar nature and degree of non-diversifiable risk as that faced by the distribution/transmission business of the provider”;
- determine the cost of equity using the CAPM according to a prescribed formula; and
- calculate the cost of debt as the sum of a debt risk premium and the nominal risk free rate.

The AER’s task is to determine new inputs or methods for calculating the inputs into the above formulae. We note that the method for calculating the debt risk premium is not subject to review – just the credit rating assumed (and noting that any change to the maturity period for the nominal risk free rate will apply also to the debt risk premium).

As noted in section 2 above, the Law and the Rules provide specific guidance about the outcome that is required for the rate of return, namely that it should:

- comprise a return commensurate with the regulatory and commercial risks involved in providing the regulated services⁶;
- reflect the cost of capital as measured by the return required by investors in a commercial enterprise with a similar nature and degree of non-diversifiable risk as that faced by the distribution or transmission business of the provider⁷; and
- be a forward looking rate of return that is commensurate with prevailing conditions in the market for funds and the risk involved in providing the regulated services⁸.

Having regard to these requirements there are a number of implications for the review of the WACC parameters.

Firstly, clauses 6.5.2(b) and 6A.6.2(b) of the Rules are the most specific, and define the target of the calculation to be the ‘cost of capital’ associated with the regulated activities, and that this term is defined in turn to mean the return required by investors in a commercial enterprise with a similar level of non-diversifiable risk. The concept of ‘cost of capital’ has a widely accepted meaning in finance, and the definition contained in this

⁶ Section 7A, *National Electricity Law*

⁷ Clauses 6.5.2(b) and 6A.6.2(b), *National Electricity Rules*

clause – namely the return required by investors – is consistent with a standard textbook definition. There are also a number of widely-accepted characteristics of costs of capital that would be implied by the reference to this, including that the cost of capital:

- represents the opportunity cost to an investor of devoting funds to a particular activity, and thus depends on the returns that could be made in alternative investments and the risk of the investment in question relative to the other investments;
- cannot be observed or known by any individual, but rather must be estimated from capital market information using one of the available tools from finance theory and practice; and
- is estimated with imprecision (and normally an uncomfortably high degree of imprecision).

Secondly, all of the criteria require the rate of return to reflect the risk that is borne in providing the regulated services, implying that additional risk should imply a higher rate of return. The Law defines the classes of risk that are relevant to this inquiry very widely (it is difficult to conceive of risk that is neither commercial nor regulatory). Clauses 6.5.2(b) and 6A.6.2(b) of the Rules define the classes of relevant risk more narrowly as comprising only the non-diversifiable portion of risk.

As noted above, the fact that the rate of return should reflect the risk of that investment in a business is implicit in the concept of the cost of capital discussed above. The key difference between the general guidance in the Law and the specific guidance in the Rules pertains to the portion of risk that affects the cost of capital – with risk cast widely in the Law but more narrowly in the Rules. The provisions in the Rules reflect the proposition that only part of the risk of an investment in a business need be borne by an investor because much of the other risk can be eliminated at no or negligible cost by holding an asset as part of a diversified portfolio. Under this view, only the non-diversifiable portion of risk is relevant.

However, there is at least a theoretical argument that elements of diversifiable risk may also be relevant in certain circumstances. Where strict compliance with the Rules may lead to non-compliance with the Law, in our view the AER must accommodate the Law's objective in the final parameters and methodologies adopted.

Thirdly, clause 6.5.4(e)(1) imposes two further requirements, namely that the rate of return be:

⁸ Clauses 6.5.4(e)(1) and 6A.6.2(j)(1), *National Electricity Rules*

- forward looking; and
- commensurate with prevailing conditions in the market for funds.

The first of these requirements would appear to be a direction that the rate of return should relate to the period of the relevant investment cycle. Accordingly, the input parameters or methods determined as part of this review should be expected to generate a forecast of the cost of capital over the forthcoming period at the time the rate of return is determined.

The requirement for the rate of return to be commensurate with ‘prevailing conditions in the market for funds’ at first sight appears to contradict the requirement for the rate of return to be forward looking – the *anticipated* rather than *prevailing* conditions should be most relevant to a forward looking rate of return. However, what this clause appears to require is that where inputs into the forecast rate of return are based on the conditions in the market for funds at the start of the period which is, at that time, the best available information on the expectations of the market going forward and so has been a typical method for determining the risk free rate and cost of debt.

As well as the guidance for the specific outcome required of the rate of return, the revenue and pricing principles in s 7A of the Law also requires the AER to:

- (a) provide network service providers with a reasonable opportunity to recover at least the efficient costs the service provider incurs in providing services, complying with regulatory obligations or making regulatory payments;

...

- (c) consider the economic costs and risks of the potential for under and over investment by a regulated service provider in its prescribed network services and direct control network services; and
- (d) consider the economic costs and risks of the potential for under and over utilisation of a service provider’s prescribed network services and direct control network services.

Part of the efficient cost of providing the regulated service is the opportunity cost of the funds the provider has tied up in the regulated activities. Accordingly, clause (a) places an asymmetric obligation on the AER – that is, to ensure that the rate of return (in common with other efficient cost items) is not lower than the true cost of capital, while leaving open the possibility that the rate of return (and other cost items) may exceed the efficient cost.

Clauses (c) and (d) require the economic costs and risks of a particular decision for under or over investment or utilisation of services to be considered. The natural implication of this clause is that the AER is empowered (and required) to vary the decision that it otherwise would have made after considering these economic costs and risks. For example, it may be that:

- the level of the rate of return will affect the potential for under investment (as a return that is too low will reduce the incentives for investment as well as the capacity for the regulated businesses to raise the necessary capital for investment), but a return that is too high would be less likely to encourage over investment (given the financial incentives in the regime to minimise costs); and
- accordingly, there is asymmetric risk in selection of WACC parameters, with more serious consequences resulting should the parameters be set so as to result in a rate of return that is too low rather than too high.

As discussed above, the Rules also specify the methods to be used to calculate the rate of return parameters. Under clauses 6.5.2(b) and 6A.6.2(b) of the Rules, the rate of return must be calculated as a post-tax nominal weighted average cost of capital according to a prescribed formula. In this context, the provisions define the “rate of return” as “the cost of capital as measured by the return required by investors in a commercial enterprise with a similar nature and degree of non-diversifiable risk as that faced by the distribution/transmission business of the provider”.

Further:

- the cost of equity must be determined using the CAPM according to a prescribed formula; and
- the cost of debt must be calculated as the sum of a debt risk premium and the nominal risk free rate and for the debt risk premium to be calculated as the difference between the Australian benchmark rate on corporate bonds and the nominal risk free rate.

The first of the requirements noted above does not apply a significant constraint regarding the estimation of the rate of return. This is because the formula for the weighted average cost of capital leaves open how the estimates of the costs of debt and equity are derived.⁹ However, the requirement to use the CAPM requires a specific method to be used to estimate the required rate of return for the providers of equity finance. More

⁹ We note that this method does have a material effect in relation to how compensation is to be provided for taxation, as it requires an explicit allowance to be provided for taxation rather than being incorporated within a (pre tax) WACC.

specifically, the Rules prescribe a formula for the estimation of the cost of equity that has become known as the Sharpe-Lintner version of the CAPM, which is derived under a number of assumptions and for which the required inputs are (largely) well-defined, those inputs being:

- the 'risk free' rate of return, which is the return that would be earned on an asset that has no risk;
- the market (or equity) risk premium, which is the expected return on the market portfolio; and
- the beta, which is the expected degree of co-movement between the returns to the asset in question and the returns to the market portfolio (formally, the beta is the covariance between the returns to these assets, divided by the variance of the returns to the market portfolio).

There is a body of literature and practice governing how these inputs can be estimated. By way of example, the future market risk premium may be estimated on the basis of the historically-earned premium, or from a model that captures expectations about the future. Betas are typically estimated on the basis of the observed relationships between the returns to assets that are like the regulated activities and the market portfolio.

If the assumptions underpinning the CAPM are borne out, then obtaining a best-estimate of each of the CAPM-inputs and then using the CAPM to estimate the cost of equity will generate a best-estimate of the cost of equity. However, the inputs into the CAPM are estimated with imprecision and, as discussed further below, whether the CAPM will generate an accurate estimate of the cost of capital is the subject of debate. Methods or benchmarks outside of the CAPM may exist to test whether the predictions of the CAPM are accurate (at least to an approximate degree).

Similarly, the method prescribed for deriving the cost of debt requires reliance on the cost of obtaining finance from only one source – Australian corporate bonds. It is possible that the cost of debt so derived may misstate the cost of borrowings for a benchmark efficient business. As examples, this could occur if the local market did not have the capacity to absorb the debt issues of a benchmark efficient transmission and distribution firm would maintain other sources of finance of different cost in order to maintain an efficient level of flexibility.

3.2 Reconciling the different levels of guidance in the Law and Rules

The different levels of guidance in the Law and Rules for the AER's task that were discussed above can be summarised as follows:

- the AER is required to use the CAPM (of specific form) to estimate the cost of equity, to derive the cost of debt as the sum of the nominal risk free rate and a debt risk premium and to derive the rate of return as a weighted average of these costs of equity and debt;
- the AER's task in the review is, amongst other things, to derive new inputs (or method for calculating inputs) into the CAPM and a new debt risk premium (or method for calculating this premium);
- each input (or method) must be selected such that the rate of return that would be derived equates to the 'cost of capital' associated with the regulated activities (amongst other things, taking account of the relative risk of the regulated activities);
- the inputs (or methods) when applied during a regulatory review must generate a forward looking rate of return, and (as far as relevant) be commensurate with prevailing conditions in the market for funds;
- the rate of return must **at least** equate to the true cost of capital but can exceed this; and
- the AER must have regard to the costs and risks of under and over investment and utilisation that may be caused by its decision in relation to the inputs or methods, and vary its decision appropriately.

Several issues may arise with applying each of these directions, which include:

- How should the AER proceed if evidence was presented that the CAPM as prescribed would not provide an accurate estimate of the cost of capital (i.e., that estimating the inputs into the CAPM in a conventional manner and applying the CAPM as required would not result in the rate of return equating to the cost of capital) and how should evidence of this sort be introduced?
- How should the AER reconcile the dual requirements to determine inputs (or methods) that provided an estimate of the cost of capital, while at the same time ensuring that the rate of return was at least equal to the cost of capital and having regard to the economic costs and risks of under or over investment and utilisation – the combination of which could (and, if the evidence as to the economic costs and risks is compelling, then should) encourage the regulator to adopt an upward-biased estimate of the cost of capital?

The consideration of these two issues can be reconciled in the following manner:

First, the AER could estimate inputs (or methods for inputs) into the CAPM – and then to use the CAPM to determine the rate of return during a regulatory review – and so the starting point should be to estimate inputs into the (Sharpe-Lintner) CAPM estimated in a conventional manner. It is noted that these inputs will be estimated with imprecision, and so the true figure for each input could only be determined within a range.

Secondly, the AER could consider the need to set a rate of return that **at least** recovers the efficient costs and that takes account of cost and risk when selecting the ‘point’ rate of return from within the range – and, when determining the input parameters or methods, these matters must be taken into account when selecting each individual parameter or method. Thus, the AER would not be required to select the ‘central’ estimate for each parameter, but rather may adopt parameter estimates that are above the central estimate.

Thirdly, the AER could consider any other evidence presented as to whether the overall rate of return provides a return equal to the cost of capital (e.g., estimates from other models for estimating costs of capital, benchmarks set by other regulators, theoretical argument, etc). If the AER considers that using CAPM parameters as conventionally estimated will not result in a return that is equal to the cost of capital, then it could vary the input assumptions or methods to ensure that the rate of return equates to the cost of capital. This may result in the input assumptions or methods being outside of a the range for the relevant parameter that is estimated in the conventional manner.

4 Persuasive Evidence Test

4.1 The Inertia Principle: the need for ‘persuasive evidence’ to justify any change in the parameters

Clauses 6.5.4(e)(4)(ii) and 6A.6.2(j)(4)(ii) of the Rules provide that, where the credit rating levels or the values attributable to, or the method of calculating, parameters under review by the AER (**the relevant WACC elements**) cannot be determined with certainty, the AER must consider:

“the need for persuasive evidence before adopting...a value for, or a methodology used to calculate, that parameter that differs from the...value or methodology that has previously been adopted for it”.

This provision is sometimes referred to as incorporating an inertia principle, to reflect the proposition that an existing adopted value for a relevant WACC element should not be departed from unless there is persuasive evidence.

The practical application of this provision requires consideration of the following:

- whether the relevant WACC element can or cannot be determined with certainty;

- when a relevant WACC element will have been “previously adopted”;
- the meaning of the concept of “persuasive evidence”; and
- the standard against which the decision maker must be persuaded.

(a) Can a value or methodology be determined with certainty

The inertia principle requires as a pre-condition that the relevant WACC element not be capable of determination with certainty. In its context, this presumably should be interpreted as meaning that an unambiguously correct value or methodology can not be determined with certainty.

This would appear to be the case in respect of the various estimated values for the WACC parameters.

It is perhaps more arguable to say that a methodology can not be determined with certainty. For example, it is perhaps contestable that the methodology for determining the risk free rate can not be determined with certainty. The methodology has been determined with sufficient certainty for inclusion in the Rules. However, as noted above, we consider the real question is whether the methodology adopted will with certainty provide a correct estimate of the risk free rate.

It should be noted that the AER must consider whether it can determine the relevant value or methodology with certainty, and only if not, then the inertia principle applies. It is theoretically possible that the AER concludes that it can determine a parameter value with certainty in which case the inertia principle does not apply. We consider this a theoretical issue only as it is our understanding from experience and theory that it is highly unlikely or perhaps even inconceivable that such a conclusion would be reached.

(b) Has a value previously been adopted?

For the inertia principle to apply, there must also have been a value or methodology that has previously been adopted.

This is the subject of a separate Opinion that also identifies those values.

(c) the meaning of the concept of “persuasive evidence”

Evidence is simply material that logically and cogently supports a particular conclusion. In a quasi-judicial setting, Diplock LJ in *R v Deputy Industrial Injuries Cmr; Ex parte Moore*, held that:

“The requirement that a person exercising quasi-judicial functions must base his decision on evidence means no more than that it must be based upon material which tends logically to show the existence or non-existence of facts relevant to the issue to be determined, or to show the likelihood or unlikelihood of the occurrence of some future event the occurrence of which will be relevant. It means that he must not spin a coin or consult an astrologer, but he may take into account any material which, as a matter of reason, has some probative value in the sense mentioned above. If it is capable of having any probative value, the weight to be attached to it is a matter for the person to whom Parliament has entrusted the responsibility of deciding the issue. The supervisory jurisdiction of the High Court does not entitle it to usurp this responsibility and to substitute its own view for his.”¹⁰

Evidence is distinct from a submission (although it supplements and supports the submission) and is usually restricted to:

- observable facts for example, what credit rating has been given to real energy businesses, what price do the securities of different companies trade at etc;
- in court proceedings, where relatively strict and highly formalised rules of evidence apply, this is generally based on primary evidence such as business records or direct observation by a witness. In a regulatory decision making context, formal rules of evidence do not apply. However, where a matter is contentious, the more that it can be based on primary sources of evidence, the less capable it is of being impeached and should be given greater weight;
- empirical analysis and observation undertaken by a person with expertise to undertake the analysis or make the observations. For example, a person with expertise in capital finance would be able to analyse data in relation to the co-variance of various firm share returns to the overall market in order to derive a firms’ betas and provide that analysis as a basis for a further opinion (expressed either by themselves or another person) as to the appropriate beta range for the relevant business; and
- expert opinion in relation to matters that require an expert judgment, including evidence from economists, finance experts, engineers or industry experts including market practitioners – within their areas of expertise and also where properly instructed as to how their opinion is relevant to the Rule framework. Decision makers will have regard to the relevant experience and qualifications of the expert. Where an expert provides opinion outside their area of expertise that opinion is unlikely to be given much weight. For example:
 - a person involved in capital market financing could provide an opinion in relation to the cost of raising capital in those markets; and

¹⁰ *R v Deputy Industrial Injuries Cmr; Ex parte Moore* [1965] 1 QB 456 at 488; [1965] 1 All ER 81 at 94 (CA) per Diplock LJ.

- a person who is expert in capital finance theory could provide an opinion in relation to the implications of various gamma estimation approaches in the context of the application of the CAPM.

Clauses 6.5.4(e)(4)(ii) and 6A.6.2(j)(4)(ii) of the Rules require “persuasive” evidence to justify a change of the rate of return parameters. Persuasive simply means that capable of persuading and to persuade is to lead a person to believe in a fact, statement or opinion or to prove or demonstrate a thing.¹¹

In this context the evidence would need to establish, more likely than not, that a previously adopted value was incorrect.

That requirement is not simply discharged by presenting a more appealing case than the case to retain a value. There may, for example, be a range of evidence in support of an existing parameter as well as evidence in support of a change. In this circumstance, in our view it would be appropriate not to depart from an existing parameter unless:

- each credible reason or body of evidence in favour of retaining a parameter, has been addressed in the provision of more persuasive evidence demonstrating that the existing parameter is in fact flawed. There should not be left unaddressed a credible reason or evidence in support of the retention of a parameter; and
- In relation to adopting a replacement parameter, there must also be evidence in favour of adopting that parameter.

The ‘persuasive evidence’ threshold should direct the AER’s attention first and foremost to evidence (i.e., primary facts, empirical analysis or observations by experts or expert opinions that can be tested) rather than to unsubstantiated beliefs or opinions.

Accordingly, the clause places primacy on AER findings that are based on primary fact, or expert observation or opinion. Such facts, observations or opinions would be more likely to meet the “persuasive evidence” threshold if they are reached after a comprehensive review and analysis of objectively sourced and robust data rather than a reliance being placed on contentious inferences once removed from the facts. Consequently, there is a strong imperative for parties seeking a Review to alter a parameter to substantiate their proposals with objective, empirical evidence or opinion within a recognised field of expertise. Familiar tools/methods from statistical theory could be drawn upon to demonstrate the absolute and relative worth of a particular estimator (such as standard errors, extent of bias etc).

¹¹ The Oxford Dictionary defines the term ‘persuasive’ as, “That has the power of persuading; capable of or skilled in persuasion”.

The term “persuasive evidence” has not generally been judicially considered. There has been limited judicial consideration of the term ‘persuasive evidence’ in the insolvency context.¹² In *Deputy Commissioner of Taxation v First Netcom Pty Ltd*,¹³ Santow J applied the *Creevey* test and considered that a report by a highly experienced administrator that tested likely the views of directors and staff and explained why in the administrator’s opinion the debts were or were not recoverable was sufficiently persuasive. In *Lubavitch Mazal v Yeshiva*, the Supreme Court of NSW considered the judgment of Santow J, nevertheless the NSW Supreme Court in *Lubavitch* noted that: “The requirement for “persuasive evidence”...could set the barrier fairly high”.¹⁴ This may suggest that more is required to substantiate or support expert opinion. However, the Court held that it was unnecessary to decide the precise standard of proof required.

It is important to read the relevant test as a whole, in that it refers to “the need for persuasive evidence **before** adopting a value for that parameter that differs from the value previously adopted for it.” If the evidence must be sufficiently persuasive before adopting a value different from a previously adopted value, in our view, this necessitates some comparison with the existing parameter and a consideration of the evidence in relation to that parameter generally as to whether it is sufficient to warrant a departure from the previous value. Under this approach, there is a question as to what status the previous value has.

The AER must adopt an approach to the review that properly gives effect to the inertia principle. An approach that requires, before departing from an existing parameter, evidence that the previous value was incorrect or likely to be incorrect would be appropriate because it is consistent with the language of the Rules and gives substantive and real effect to the requirement for “persuasive evidence”. That approach is also, in our view, consistent with the national electricity objective and revenue and pricing principles. In particular it would create greater investment certainty and predictability for energy businesses (and also for their customers) and it is likely to be the case that the investments to be made are generally in assets with lives greater than individual regulatory control periods and greater than the period between WACC reviews.

¹² In *Creevey v DCT* (1996) 16 ACSR 456, 457, the Queensland Court of Appeal stated;

The question of whether an administration should continue, rather than that there be a winding up, is obviously closely related to the further question of whether the creditors could hope to get more by way of payment of their debts from one form of process or administration than from the other.

In order to satisfy the court of the matter referred to in s 440A(2) of the Corporations Law, one would expect that there would have to be some **persuasive evidence** to enable it to be seen that there were assets which, if realised under one form of administration rather than the other, would produce a larger dividend, or at least an accelerated dividend for the creditors. (*emphasis added*)

¹³ *Deputy Commissioner of Taxation v First Netcom Pty Ltd* (2000) 35 ACSR 615.

¹⁴ *Lubavitch Mazal Pty Ltd v Yeshiva Properties No 1 Pty Ltd and Others* [2003] 47 ACSR 197, 211.

On the other hand, an approach that considered all the evidence afresh and determined a parameter with no regard for the incumbency of the existing values would be at significant risk of not giving effect to the inertia principle and therefore would run the risk of the decision being invalid.