Rate of Return Guidelines

Response to Issues Paper

Contact: Jeremy Rothfield
Network Regulation and Compliance Manager
United Energy and Multinet Gas
Phone: 03 8846 9854

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Rate of Return Guidelines Australian Energy Regulator

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Executive summary

United Energy (UE) and Multinet Gas (MG) are grateful for the opportunity to respond to the Issues Paper that has been released by the Australian Energy Regulator (AER).

In the remainder of this submission, the two entities, UE and MG will be referred to jointly as "the Companies". On occasion, the discussion will centre only on UE, if the matters in question are germane to electricity distribution.

The Companies would like to express full support for the submission which has been prepared by the Energy Networks Association (ENA). The purpose of the current response is to provide a firm-specific perspective.

The reforms to the National Electricity Rules (NER), and to the National Gas Rules (NGR), that were implemented by the Australian Energy Market Commission (AEMC) in 2012 have the potential to give rise to significant changes to the ways in which the return on debt and the return on equity are calculated for regulated energy network businesses. A wider range of methods are now available to be employed by the AER. The Rate of Return Guidelines will provide the AER with an initial opportunity to explain how it intends to exercise its discretion with respect to the application of different approaches and techniques.

The AER believes that it can apply a set of principles to the task of assessing rate of return methods. However, the Companies are concerned that the principles could be applied in a manner which conflicts with the Rules (NER and NGR). The Companies would instead support the compilation of a list of considerations, with the latter described as issues that the AER should take into account when it assesses material and evidence on the rate of return.

Under an incentive-based regulatory system, the rate of return is calculated for a benchmark efficient entity. The Companies support the AER's intention to distinguish between the conceptual identification and practical application of a benchmark. The Companies also endorse the conceptual definition of a benchmark efficient entity that has been proposed by the ENA[1]:

> A 'pure-play' regulated electricity or gas network business operating within Australia without parental ownership providing the same scale and scope of services to the same customer base in the same regulatory period.

The benchmark efficient entity faces the same set of non-diversifiable risks and externalities as are confronted by actual network service providers. The Companies believe that a satisfactory case cannot be made for the incorporation of parental ownership into the benchmark definition.

The practical implementation of the benchmark should give recognition to some of the difficulties involved in finding directly comparable data.

As noted by the ENA, the new Rules require the regulator to give proper consideration to a wider range of relevant information when determining the allowed return on equity[2]. The AER should now have regard to all relevant estimation methods, financial models, market data and other evidence. The Companies believe that, over the course of development of the Guidelines, the AER should, at the minimum, examine the application of the Black CAPM, a domestic version of the Fama-French model, a zero beta version of the Fama-French model, and the dividend growth model.

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[1] ENA (2013), Response to the AER Rate of Return Guidelines – Issues Paper, Energy Networks Association, February 2013; section 3, Benchmark Efficient Entity, page 15.

[2] ENA (2013), Response to the AER Rate of Return Guidelines – Issues Paper, Energy Networks Association, February 2013; section 4, Rules Requirements, page 20.

The Companies submit that if the AER considered relevant methods, models, data and evidence, but then concluded that the additional information should be given no weight, then the AER would in effect be undermining the policy intent that provided a key rationale for the revisions to the Rules. The policy intention was to achieve a closer alignment between the Rules (NER and NGR) and the National Electricity Objective and National Gas Objective[3]. The Companies therefore urge the AER to exercise its regulatory discretion and judgement in a transparent manner and to avoid reverting to previous form.

The Rate of Return Guidelines implicitly recognise that there are broader measures of risk than simply CAPM risk, which is a form of systematic risk. In the Sharpe-Lintner CAPM, the risk of equity is measured solely by equity's beta, that is, the exposure of equity to changes in the value of the market portfolio. Other asset pricing models, such as the Fama-French three factor model, link the cost of a firm's equity to equity's exposure to other portfolios besides solely the market portfolio. In other words, fluctuations in the value of the market portfolio are not the sole source of risk in the Fama-French model.

The new Rules have allowed for a fundamental re-assessment of the way in which the return on debt can be calculated. While the former "rate-on-the-day" approach is still available to be used by network service providers, the AEMC also espoused the view that a single approach would be unlikely to produce the best return on debt estimates for all NSPs.

The acceptable methods that were set out by the AEMC in the new Rules each correspond to one of the debt management strategies that were discussed at some length during the AEMC's Rule change process[4]:

- Clause 6.5.2(j)(1) sets the allowed return on debt to match a debt management strategy of raising all of the NSP's debt finance at the beginning of each determination.
- Clause 6.5.2(j)(2) sets the allowed return on debt to match a debt management strategy of staggered borrowing. For example, an NSP could issue 10% of its total debt requirements each year via the use of 10-year debt instruments.
- Clause 6.5.2(j)(3) sets the allowed return on debt to match a debt management strategy of staggered borrowing plus a swap overlay to hedge the base rate (but not the debt risk premium) to the rate that prevails at the beginning of the regulatory period.

The Companies submit that the AER should give consideration to each of the three approaches, and should not seek to sideline any particular method at an early stage in the process.

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[3] The rule making tests are set out in section 88 of the National Electricity Law (NEL) and section 291 of the National Gas Law (NGL). The revenue and pricing principles are set out in section 7A of the NEL and section 24 of the NGL. The principles concern matters such as the recovery of efficient costs; incentives to promote efficiencies; and a requirement that prices should reflect returns commensurate with the risks involved in providing services.

[4] For a summary, see ENA (2013), Response to the AER Rate of Return Guidelines – Issues Paper, Energy Networks Association, February 2013; section 5, Allowance for the Cost of Debt, page 29.

1. An approach based on factors or principles

1.1. Status of the proposed principles vis-à-vis the Laws and the Rules

The AER has put forward a set of principles which the AER believes should be applied to the task of assessing rate of return proposals. The AER is seeking stakeholder comment on how the application of a principles-based approach would allow it to assess whether the rate of return methodologies might meet the rate of return objective. In response, UE and MG, ("the Companies"), contend that the application of the principles in the manner suggested by the AER would result in a non-conformance to the rate of return objective.

The issue at stake is that the principles have no explicit foundation in the relevant Laws (National Electricity Law, National Gas Law) and Rules (National Electricity Rules, National Gas Rules). Therefore, if the AER were to adhere firmly to the principles, then it would potentially be committing an error. The adoption of a framework comprised of the proposed principles would be inconsistent with the provisions of the Laws and the Rules that govern the development of the Rate of Return Guidelines.

An argument could be advanced that items 1(c) and 1(d) in the list of principles have a relevant foundation in the Rules and the Law. The two numbered points from the AER's list of principles can be read as follows[5]:

> The allowed rate of return objective may be best met if the proposed rate of return methodologies:
>
> (1) Are driven by economic principles:
>
> (c) The methodologies are internally consistent
>
> (d) The methodologies have regard to prevailing market conditions.

However, an important point is that items 1(c) and 1(d) are expressed in a way that does not correspond properly with the relevant requirements of the Rules. Consider, for instance, clause 6.5.2 (e) of the National Electricity Rules (version 53):

> (e) In determining the allowed rate of return, regard must be had to:
>
> (1) relevant estimation methods, financial models, market data and other evidence;
>
> (2) the desirability of using an approach that leads to the consistent application of any estimates of financial parameters that are relevant to the estimates of, and that are common to, the return on equity and the return on debt; and
>
> (3) any interrelationships between estimates of financial parameters that are relevant to the estimates of the return on equity and the return on debt.

The Rules provide that "regard must be had" to certain considerations, but do not suggest that the considerations have the status of principles.

The other principles enunciated by the AER do not seem to correlate well with the Rules. For example, at item number 5(c), the AER has suggested that the principles for assessing rate of return proposals should be consistent with "broader regulatory aims". A literal implication of this clause would suggest that the AER is keen to promote the objectives of other regulators. These regulators may be operating in industry sectors other than electricity and

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[5] AER (2012), Better Regulation, Issues Paper, Developing the Rate of Return Guidelines, Australian Energy Regulator, December 2012.

gas. Fortunately, however, the AER provided verbal clarification of the meaning of item number 5(c) during a public consultation session. The presiding member of the AER board stated that there was no ulterior motive, and that the AER would not consider itself to be bound by the decisions of other regulators. The AER would adopt an evidence-based approach and would not pursue consistency with the decisions of other regulators as an end in itself[6]. The presiding member further stated that the AER was interested in considering advances in cost estimation techniques or discoveries in relation to the use of data sets, and would monitor the progress made by other economic regulatory agencies. The Companies request that the AER remove, from the Guidelines, the reference to "supportive of broader regulatory aims" and make a note of the presiding member's remarks.

1.2. The role of considerations in the decision-making process

Although UE and MG have strong reservations about the development of a set of rigid principles, the Companies believe that there is merit in compiling a list of considerations that can be used to inform the assessment of the rate of return. The "considerations" can be described as issues that the AER should take into account while it assesses material and evidence on the rate of return. The considerations will, of course, be subordinate to the Rules (NER and NGR).

The Companies maintain that the list of considerations developed by the ENA provides a sensible and pragmatic alternative to the set of principles put forward by the AER in its Issues Paper. Furthermore:

- The list of considerations should not be applied as a mechanical screening device to reject options that might potentially be suitable to the task of assessing the rate of return.

- The individual considerations should be allowed to evolve as part of the process of development of the Rate of Return Guidelines.

The Companies believe that there are further over-arching considerations which ought to be incorporated into the tabulated list that is ultimately developed by the AER.

- The AER should endeavour to uphold the properties of an incentive-based regulatory regime.

- The existence of uncertainty should not provide cause for the AER to dismiss particular methods.

- The AER should resist the inclination to confine its analysis to a narrow straitjacket. The Guidelines should not attempt to constrain the evolution of methods and practices over time.

- The Guidelines should build in a certain capacity for approaches and methods to adapt to changing market circumstances over time. Furthermore, there ought to be some flexibility incorporated in the Guidelines for the AER to be able to respond to financial market crises in a timely manner. An appropriate response would be for the AER to give more weight to the results from the application of particular methods, or to ensure that datasets are used appropriately.

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[6] Better Regulation, Rate of Return Forum, First meeting – 5th February 2013, Australian Energy Regulator.

2. Definition and implementation of the benchmark efficient entity

The Companies commend the AER for drawing a distinction between the conceptual definition of a benchmark and the practical implementation. The AER has thus maintained the practice which it adopted during the WACC review (2009)[7].

2.1. Conceptual definition of the benchmark firm

In the lead-up to the WACC review (2009), the AER released an explanatory statement in which it argued that an efficient benchmark is a "pure play" electricity network business rather than a stand-alone network[8]. A "pure play" business is sometimes described as a publicly-traded company that is focused on only one industry or product. However, other interpretations of pure play disregard the reference to a publicly traded entity.

The AER explained that the term 'stand-alone' referred to an economic concept of providing a specific service within a suite of services that are delivered by a multi-product business[9]. A stand-alone business would not be able to capture the efficiencies that are available through economies of scope. The AER considered that the concurrent provision of multiple services (such as meter reading, and the transport of electricity to large and small customers) was important, and would result in potential cost savings. Hence, the notion of a stand-alone business was not incorporated into the definition of a benchmark.

The benchmark efficient entity was construed as being a pure play company which provided multiple (network) services within a single industry classification. In the final decision for the WACC review (2009), the AER reiterated the reference to a pure play company, but would not affirm the pre-eminence of a large, stock-market listed network service provider[10].

The Companies endorse the conceptual definition of a benchmark efficient entity that has been proposed by the ENA[11]:

> A 'pure-play' regulated electricity or gas network business operating within Australia without parental ownership providing the same scale and scope of services to the same customer base in the same regulatory period.

The Companies also support the explanation of the components of the definition, with that explanation having been provided in a table in section 3 of the ENA submission to the AER.

The Companies further note that a uniform definition of the benchmark will not necessarily apply to all determinations. The AER should consider how an efficient firm might present itself in the circumstances of the firm

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[7] AER (2009), Final Decision, Electricity transmission and distribution network service providers, Review of the weighted average cost of capital (WACC) parameters, May 2009, Australian Energy Regulator; see page 77.

[8] AER (2008), Explanatory Statement, Electricity transmission and distribution network service providers, Review of the weighted average cost of capital (WACC) parameters, December 2008, Australian Energy Regulator; see page 56.

[9] AER (2008), Explanatory Statement, Electricity transmission and distribution network service providers, Review of the weighted average cost of capital (WACC) parameters, December 2008, Australian Energy Regulator; footnote 103.

[10] AER (2009), Final Decision, Electricity transmission and distribution network service providers, Review of the weighted average cost of capital (WACC) parameters, May 2009, Australian Energy Regulator; pages 79 to 82.

[11] ENA (2013), Response to the AER Rate of Return Guidelines – Issues Paper, Energy Networks Association, February 2013.

being regulated. For example, an efficient gas pipeline with few corporate customers might look and behave differently from a retail gas distribution network. Furthermore, the definition of the benchmark is distinct from the models that are used to estimate rate of return.

2.2. The nature of ownership and the ownership structure of the benchmark efficient entity

2.2.1. Government-owned enterprises and private sector businesses

The AER has suggested that the conceptual definition of a benchmark firm could include a requirement that firms be privately owned[12]. The AER has therefore raised the possibility that it could adopt a position which is at odds with that applied at the conclusion of the 2009 WACC review. The AER has also set forth the proposition that the benchmark might be taken to include privately-owned firms which are part of group ownership structures. According to the AER[13]:

> For example, most privately-owned Australian service providers are owned by parent firms. From this, stakeholders may draw the conclusion that parental ownership represents efficient market behaviour.

In the WACC review final decision, the AER recognised that "supportive parents would be likely to lower business risks, other things being equal", but, nonetheless, settled on a definition which did not refer to ownership issues[14].

When it was developing a transmission revenue rule proposal in 2006, the AEMC propounded that "a principle of good regulatory design is that the nature of ownership (i.e., whether public or private) should not affect the outcome of regulatory determinations"[15]. The AEMC made the particular remark in the context of a discussion about the impact on the cost of debt of the public ownership of certain transmission network service providers (TNSPs).

In its recent review of the economic regulation of network service providers, the AEMC has upheld the principle that the characteristics of the owner of the infrastructure should not matter. The AEMC explained, in its draft and final determinations, that the return on debt allowance for state-owned network service providers should not be set differently from the return on debt allowance for privately-owned network service providers[16]. Although state governments provided an implicit guarantee to the businesses which they owned, the businesses were, in turn, required to pay for those guarantees through competitive neutrality payments. The AEMC stated that the debt neutrality fees played an important role in ensuring that state-owned service providers did not face an artificially lower cost of capital that would distort their investment decisions.

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[12] AER (2012), Better Regulation, Issues Paper, Developing the Rate of Return Guidelines, Australian Energy Regulator, December 2012; page 20.

[13] Ibid.; page 20.

[14] AER (2009), Final Decision, Electricity transmission and distribution network service providers, Review of the weighted average cost of capital (WACC) parameters, May 2009, Australian Energy Regulator; page 82.

[15] AEMC (2006), Review of the Electricity Transmission Revenue and Pricing Rules, Transmission Revenue: Rule Proposal Report, Draft National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006, Australian Energy Market Commission, February 2006; page 64.

[16] AEMC 2012, Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper, Australian Energy Market Commission, 29th November 2012, Sydney; page 79.

The AEMC rejected the notion that government support of borrowing should be considered as a factor which lowers the cost of debt for the benchmark efficient entity. Both privately-owned businesses and government-owned businesses would therefore face the same effective cost of capital. The latter point can be inferred from a comment made by the AEMC about the difference between the interest paid by a state-owned service provider and the amount that would have been paid in the absence of a government guarantee[17]:

> Since state-owned service providers are able to borrow funds at interest rates based on the credit rating of their respective state or territory government, a debt guarantee fee/competitive neutrality fee aims to ensure that the service providers are subject to a rate of interest or cost of debt based on their own credit rating. The fee represents an extra charge to make up the difference between the interest paid by the service provider and the amount they would have paid in the absence of a government guarantee. Therefore, under the current rules, the return on debt estimate does not need to account for any charges associated with these fees as the return on debt is estimated on the basis of a benchmark service provider with a standalone credit rating.

A practicality which then arises is that of observing the cost of capital paid by the network service provider. The cost of capital can, arguably, be more readily discerned for a privately-owned "pure play" network service provider than for a government-owned network service provider. The relative ease of measurement occurs because when considering the private sector business, there is no need to examine the details of how competitive neutrality payments, which are payable by state-owned businesses, have been assessed. The weighted average cost of capital that is determined for a benchmark, privately-owned pure play business should then be available to be applied to both private sector NSPs and government-owned NSPs.

In NSW and Queensland, the value of competitive neutrality fees is determined, in part, as a function of what the state-owned businesses would pay for borrowing in the absence of a government guarantee. Each business is required to obtain a stand-alone credit rating.

Therefore, rather than examine concurrently the costs of debt paid by state treasury corporations, and the amounts paid as competitive neutrality fees by state-owned businesses, a more pragmatic approach would be to simply assess the costs of debt of the benchmark, "privately-owned" pure-play NSP. However, the reference to privately-owned should not be incorporated into the definition of the benchmark.

2.2.2. The implications of group ownership structures

A similar set of arguments can also be applied to set aside the support that is made available to NSPs by parent companies.

In group holding structures, parent entities are capable of providing formal and informal guarantees to subsidiaries. Banks, bondholders and equity investors often assume that if a subsidiary were to fail, then it would be financially rescued by the parent. The expectation is that the parent company would under-write the debts of the subsidiary and would also provide additional equity. Lenders and investors will give some weight to an implied guarantee, without necessarily presuming that it is absolute. Typically, then, the implication is that the debt costs of the subsidiary will be lower.

An offsetting consideration is that subsidiary companies generally pay for the value of the implicit guarantee that is offered by the main holding company. The value of the guarantee should be approximately equal to the reduction in the cost of borrowing that is made possible through loan guarantees or the under-writing of debt. Hence, rather than attempt to assign dollar amounts to the benefit that is conferred on a subsidiary by a parent company, the

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[17] AEMC 2012, Draft Rule Determinations, Draft National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, Draft National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012, Australian Energy Market Commission, 23rd August 2012, Sydney; page 85.

AER would do better to simply consider a corporate that is not part of a group structure. The benchmark efficient entity should therefore be a self-supporting corporate entity which does not gain from parental ownership.

The ENA has presented a very coherent argument about parental ownership in its submission to the AER[18]:

> Each network service provider faces a series of risks inherent in the regulated activities it undertakes and these risks can be transferred between entities within a corporate group but not eliminated. The policy weakness of adopting a benchmark firm that is part of a corporate group structure is that such structures can often involve the parent assuming risks for the subsidiaries or subsidiaries assuming risks for each other. To include the group ownership structures in the benchmark efficient entity would obscure those risks and has the potential to under or over-compensate the actual network service provider.

The line of reasoning advanced above is closely related to the advice, given in most corporate finance textbooks, that in evaluating a new investment (or acquisition), a firm should use, not its own overall cost of capital, but the cost of capital for a project with a risk identical to the risk of the new investment[19].

2.3.   The practical implementation of the benchmark

The Companies note that when the benchmark efficient entity is being applied in a practical context, for instance when estimating WACC parameters, then the reference to a regulated network business (electricity or gas) may, on occasion, prove to be superfluous and unhelpful. Regulation may introduce distortions, for example by encouraging businesses to undertake financing practices that would not be applied in a competitive environment. In these circumstances, the comparator firms to be used in an analysis should be comprised of mostly unregulated businesses. In addition, arguments that regulation will necessarily lower risk, and thereby contribute to a reduction in the rate of return, may not be correct. An example of a case in which regulation is modelled as having a direct impact on the rate of return, is the proposition by the Queensland Competition Authority (QCA), that "the form of regulation and ancillary mechanisms affect the regulated firm's revenues and costs and, to the extent that these elements of the firm's cash flows co-vary with the market, the form of regulation must have an impact on the regulated firm's beta in the CAPM" [20]. The QCA has advanced a position about the effects of the regulatory framework although it received earlier advice from NERA Economic Consulting that it should place relatively little weight on the link that high level principle predicts should exist between the regulatory framework chosen by the QCA and the equity beta of a benchmark firm. NERA had examined a number of empirical studies as part of an assignment undertaken for the QCA and had reported that there was a lack of strong evidence of a relationship between the regulatory framework and the equity beta of a regulated firm[21].

The AER has recognised that the estimation of WACC parameters and variables may necessitate the examination of data which has been constructed from a broad sample of firms, many of which may not bear a close

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[18] ENA (2013), Response to the AER Rate of Return Guidelines – Issues Paper, Energy Networks Association, February 2013; section 3 on the benchmark efficient entity.

[19] See for instance Grinblatt and Titman (2002), *Financial Markets and Corporate Strategy*, Second Edition, Mark Grinblatt and Sheridan Titman, McGraw-Hill Irwin; section 11.5, page 391.

[20] QCA (2012), Discussion Paper, Risk and the Form of Regulation, Queensland Competition Authority, November 2012; page (vi).

[21] NERA (2011), Cost of Capital for Water Infrastructure Company, Report prepared for the Queensland Competition Authority, prepared by NERA Economic Consulting, 28th March 2011; page 42.

resemblance to the representative, benchmark efficient entity. The conceptual definition of the benchmark therefore has to be relaxed in order to admit market evidence[22].

Australian companies commonly raise debt and equity capital overseas, though this does not necessarily mean that they face exactly the same market for funds as do firms that are located overseas[23]. The global market for capital is not perfectly and seamlessly integrated. Although larger Australian corporations will make use of international capital markets when the opportunity permits, their practices should not be interpreted as suggesting that there is a unified, global market for capital funding.

When estimating WACC parameters and variables, a case can be made for the use of international data so as to increase the number of observations that are available in a sample to be employed for empirical analysis. International data should be used when it offers the prospect of obtaining more robust estimates which are free of the influence of the relatively small number of firms within the Australian market that closely match the characteristics of the benchmark efficient entity. Nonetheless, the application of data covering financial markets overseas needs to be done judiciously so as to avoid introducing bias.

3.   Regulatory allowance for the return on equity

3.1.   Flexibility, regulatory discretion and predictability

In its final determination, the AEMC explained that the purpose of the Guidelines was to provide a degree of certainty to stakeholders about the application of methods[24]:

> The role of the guidelines is to provide stakeholders with an opportunity to engage with the regulator to determine how it will estimate the rate of return at the time of the regulatory determination or access arrangement. That is, they are more about providing service providers, investors and consumers with certainty on the methodologies of the various rate of return components and how the regulator will assess the relevant estimation methods, financial models, market data and other evidence in meeting the overall allowed rate of return objective.

The AEMC added that the Guidelines would also provide the regulator with an opportunity to specify how it would deal with any unpredictable changes in market conditions at the time of any regulatory determinations or access arrangements.

For its part, the AER has commenced a dialogue on the return on equity by asserting that the standard regulatory approach, which uses the Sharpe-Lintner CAPM, has provided a degree of certainty and predictability in regulatory decision-making. However, the AER has also acknowledged criticisms of the standard approach, which are essentially that it is too mechanistic, and insufficiently responsive to changing market conditions[25].

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[22] AER (2012), Better Regulation, Issues Paper, Developing the Rate of Return Guidelines, Australian Energy Regulator, December 2012; page 22.

[23] For instance, debt investors based in the USA will consider exchange rate risk before purchasing the bonds issued by Australian corporates. The same investors would not need to consider exchange rate risk if their attention was restricted to companies operating solely in the USA.

[24] AEMC 2012, Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper, Australian Energy Market Commission, 29th November 2012, Sydney; page 57.

[25] AER (2012), Better Regulation, Issues Paper, Developing the Rate of Return Guidelines, Australian Energy Regulator, December 2012; page 28.

The AER's persistent application of the SL-CAPM may have delivered certainty of process, however the outcomes for the return on equity fell within a wide band. The ENA has expressed the view that if stakeholders contribute constructively to the Guidelines process, then there is potential for the regulatory framework to provide both certainty of process and a range of outcomes for the return on equity which are reasonable, stable and commensurate with market conditions[26]. The Guidelines will achieve these objectives more effectively than the existing AER approach if the regulator takes all evidence into account, and explains its reasoning and exercise of judgement transparently.

The Companies believe that the Guidelines should allow for flexibility in terms of the approaches that distributors can propose for application to the assessment of the return on equity. Businesses should expect certainty in terms of a consistent assessment by the AER of certain types of evidence.

- The same type of evidence should be assessed consistently over successive reviews, unless a previous evaluation can be shown to have been in error. That would deliver some certainty.

- The AER should apply consistent standards when evaluating the output from different asset pricing models at a certain point in time. Businesses should expect certainty and predictability in that regard.

- There ought to be some certainty about the calibration and parameterisation of asset pricing models, but that certainty should not be expected right from the outset.

3.2. Proposed framework for determining the allowed return on equity

In its draft decision on the proposed Rule change for the economic regulation of network service providers, the AEMC provided specific comments on alternative asset models as follows[27]:

> An illustration of the issues associated with just relying on the CAPM to estimating return on equity has also been highlighted by the LMR [Limited Merits Review] Panel. In its stage one report, the LMR Panel noted that 'binding regulatory decisions hand and foot to a financial model with known defects does not immediately commend itself as an approach that will advance the NEO and NGO'. There are a number of other financial models that have varying degrees of weaknesses. Some of the financial models that have gained some prominence include the Fama-French three-factor model, the Black CAPM, and the dividend growth model. Weaknesses in a model do not necessarily invalidate the usefulness of the model. Ultimately, it is important to keep in mind that all these financial models are based on certain theoretical assumptions and no one model can be said to provide the right answer.

> Given that there are other financial models and methods for estimating the cost of equity capital that vary in their acceptance academically and consequent usage by market practitioners, restricting consideration to the [Sharpe-Lintner] CAPM alone would preclude consideration of other relevant estimation methods. The Commission is of the view that estimates are more robust and reliable if they are based on a range of estimation methods, financial models, market data and other evidence. A framework that eliminates any relevant evidence from consideration is unlikely to produce robust and reliable estimates, and consequently is unlikely to best meet the NEO, the NGO and the RPP.

As noted by the ENA, the new Rules require the regulator to give proper consideration to a wider range of relevant information when determining the allowed return on equity[28]. The AER should now have regard to all relevant estimation methods, financial models, market data and other evidence.

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[26] ENA (2013), Response to the AER Rate of Return Guidelines – Issues Paper, Energy Networks Association, February 2013; section 4 on allowance for the return on equity; page 19.

[27] AEMC 2012, Draft Rule Determinations, Draft National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, Draft National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012, Australian Energy Market Commission, 23rd August 2012, Sydney; page 48.

The Companies submit that if the AER considered relevant methods, models, data and evidence, but then concluded that the additional information should be given no weight, then the AER would in effect be undermining the policy intent that provided a key rationale for the revisions to the Rules. The policy intention was to achieve a closer alignment between the Rules (NER and NGR) and the National Electricity Objective and National Gas Objective[29]. The Companies therefore urge the AER to exercise its regulatory discretion and judgement in a transparent manner and to avoid reverting to previous form.

The Rate of Return Guidelines implicitly recognise that there are broader measures of the risk of equity than simply its beta. In the Sharpe-Lintner CAPM, the risk of equity is measured solely by equity's beta, that is, the exposure of equity to changes in the value of the market portfolio. Other asset pricing models, such as the Fama-French three factor model, link the cost of a firm's equity to equity's exposure to changes in the values of other portfolios besides the market portfolio. In other words, in the Fama-French model, fluctuations in the value of the market portfolio are not the sole source of risk.

The Companies endorse the phased approach that has been devised by the ENA to assess the required return on equity for the benchmark firm[30]. The three stages of the approach can be described as follows:

- Step 1: Identify the relevant methods, models, data and evidence.

- Step 2: Compute the best estimate of the required return on equity for the average firm using each approach/piece of evidence, and distil from that an estimate of the required return on equity for the average firm; and

- Step 3: Compute the best estimate of the required return on equity for the benchmark firm using each approach and each piece of evidence. The results from this exercise should then be distilled down into an estimate of the required return on equity for the benchmark firm. Step 3 is incremental to Step 2 above.

The Companies posit that the manner in which the aforementioned steps are implemented should be the subject of considerable additional consultation and discussion.

An example of how empirical evidence should be brought to bear would be in recognising explicitly that the SL-CAPM underestimates the cost of equity for low beta stocks. Empirical evidence has shown that the relationship between the mean return to a portfolio and the portfolio's beta is approximately flat[31]. Hence, an appropriate response would be to lower the weight that one places on the SL CAPM because of this low-beta bias.

An example of a way in which one might determine whether a regulator's choice for a cost of equity is a close empirical approximation of the cost of equity that a benchmark firm might actually face would be to examine recent independent expert reports on regulated utilities or firms of similar risk.

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[28] ENA (2013), Response to the AER Rate of Return Guidelines – Issues Paper, Energy Networks Association, February 2013; section 4 on allowance for the return on equity; page 20.

[29] The rule making tests are set out in section 88 of the National Electricity Law (NEL) and section 291 of the National Gas Law (NGL). The revenue and pricing principles are set out in section 7A of the NEL and section 24 of the NGL. The principles concern matters such as the recovery of efficient costs; incentives to promote efficiencies; and a requirement that prices should reflect returns commensurate with the risks involved in providing services.

[30] ENA (2013), Response to the AER Rate of Return Guidelines – Issues Paper, Energy Networks Association, February 2013; section 4, Allowance for the Return on Equity, page 22.

[31] See, for example, Grundy (2010), The Calculation of the Cost of Capital, A Report for Envestra, prepared by Bruce D. Grundy, University of Melbourne, 30th September 2010.

3.2.1. Single model with "cross-checks" method

The Companies do not consider that the approach of applying a single, preferred model, and then using external reference points to verify the outcomes from that model, will necessarily constitute an optimal methodology. In the past, the AER has favoured the use of a single model, the SL CAPM, and has then applied cross-checks, such as the results from an analysis of broker reports, and trading multiples. The AER has not, however, set out a list of criteria that can be used to assess whether or not the primary model should be rejected. In fact, the experience to-date has shown that the AER has tended to adhere to the outcome of the primary model even if there is an inconsistency between the results from the main asset pricing model and one or more of the reasonableness checks[32].

4. Regulatory allowance for the return on debt

4.1. Return on debt and hedging arrangements

In its Issues Paper, the AER has discussed portfolio approaches to the cost of debt and has espoused the view that:

> Firms re-finance the entirety of the debt funded component of their asset base during the averaging period; or, alternatively,

> Firms engage in some other financing practice (such as holding a portfolio of different debt instruments and staggering the refinancing of their debt over time), but enter into hedging arrangements to replicate a borrowing cost structure as if they did refinance their asset base during the averaging period.

The AER's characterisation of what regulated businesses do is not strictly correct.

By way of example, Multinet manages a portfolio of debt comprised, in part, of long-dated debt instruments. In 2012, the firm engaged in hedging transactions during its nominated regulatory observation period so as to lock down a base cost of debt. The strategy was aimed at guarding against interest rate risk. Hedging affects a high proportion of forecast debt, and is done via vanilla interest rate swaps, and, to a lesser extent, forward start swaps.

Multinet did not actually hedge against the debt risk premium, itself, because there is no market available that would have facilitated such a transaction. The regulatory debt risk premium for the 2013-17 regulatory period was unknown during the averaging period nominated for the review.

A key objective for Multinet, when it structures its debt portfolio, is to minimise re-financing risk. Subject to investor appetite, Multinet generally seeks to issue longer term debt so as to attenuate re-financing risk.

4.2. Actual funding costs versus a benchmark

The Rules (NER and NGR) do not permit the use of a firm's actual cost of debt, to measure the return on debt allowance. Clause 6.5.2 (j) of the National Electricity Rules refers explicitly to the return required by debt investors in a benchmark efficient entity.

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[32] For an evaluation of the way in which the AER applies its reasonableness checks, see, for example, SFG (2012), The required return on equity: Response to AER Victorian Gas Draft Decisions, Report for APA GasNet, Envestra, Multinet and SPAusNet, prepared by SFG Consulting, 7th November 2012; see chapter 8.

If the AER were to use an NSP's actual cost of debt in the evaluation of the regulatory rate of return, for instance by defining the benchmark narrowly, then the incentive properties of the regulatory regime would be seriously undermined.

The use of the actual cost of debt is not practical because a business is unlikely to have conformed to a benchmark capital structure (with 60% gearing) at all of the times when debt was issued. There is similarly little likelihood that a business will have operated for an extended period in the precise context of the benchmark firm, characterised by a single, stand-alone regulated asset.

An NSP's actual cost of debt may be influenced by its unregulated activities, with the result that the firm may not match the risk characteristics of "a benchmark efficient entity with a similar degree of risk as that which applies to the Distribution Network Service Provider in respect of the provision of standard control services" [33]. Even if a business had no such unregulated activities, then its cost of debt would reflect idiosyncratic aspects of its funding strategy associated with:

- The amount of debt that had been issued (with a consequent effect on gearing).

- The type of debt that had been issued by the business (distinguished by features such as maturity, call and put option features, floating versus fixed rate debt, and senior versus subordinated).

- The conditions written into loan agreements; and

- The date when the debt was issued, and the amount and type of debt that was available to the market at the time.

The idiosyncratic nature of each NSP's capital structure would mean that, even if the problems associated with non-regulated assets could somehow be overcome, the AER would still need to adjust the interest rate on each debt instrument issued by the business so as to ensure that the interest expense was consistent with the level and frequency of repayments being made by the benchmark efficient firm. The benchmark firm is that for which the cost of equity has been determined. The AER could not simply match a firm's actual interest payments on the books with a cost of equity estimate that corresponded to the benchmark capital structure. Making such adjustments correctly, however, would be a formidable task.

4.3. Implications of the new Rules for debt management

Under previous versions of the Rules (NER and NGR), the return on debt for a benchmark efficient entity was calculated over a short averaging period or reference period, which generally preceded the commencement of a regulatory control period for the particular business. The reference period was nominated in advance and typically covered a time interval of between 10 and 40 business days. The cost of debt allowance was worked out on each day of the period, and the results were averaged.

The new Rules have allowed for a fundamental re-assessment of the way in which the return on debt can be calculated. While the former "rate-on-the-day" approach is still available to be used by network service providers, the AEMC also espoused the view that a single approach would be unlikely to produce the best return on debt estimates for all NSPs. In its final determination, the AEMC stated that[34]:

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[33] Clause 6.5.2 (c) of the NER.

[34] AEMC 2012, Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper, Australian Energy Market Commission, 29th November 2012, Sydney; page 72.

> The best methodology for estimating return on debt may not be the same for benchmark efficient service providers with different characteristics. Therefore, the rules should not prescribe a particular methodology for estimating the return on debt component. However, the rules should provide some guidance as to how the best methodology should be determined. The rate of return guidelines will provide a forum to discuss and analyse the best approaches to estimating the return on debt.

As has been mentioned by the ENA, the acceptable methods that were set out by the AEMC in the new Rules each correspond to one of the debt management strategies that were discussed at some length during the AEMC's Rule change process[35]:

- Clause 6.5.2(j)(1) sets the allowed return on debt to match a debt management strategy of raising all of the NSP's debt finance at the beginning of each determination.

- Clause 6.5.2(j)(2) sets the allowed return on debt to match a debt management strategy of staggered borrowing. For example, an NSP could issue 10% of its total debt requirements each year via the use of 10-year debt instruments.

- Clause 6.5.2(j)(3) sets the allowed return on debt to match a debt management strategy of staggered borrowing plus a swap overlay to hedge the base rate (but not the debt risk premium) to the rate that prevails at the beginning of the regulatory period.

The Companies submit that the AER should give consideration to each of the three approaches, and should not seek to sideline any particular method at an early stage in the process. The Companies anticipate that the Guidelines will contain a discussion of the rate-on-the day approach, and two further return-on-debt methods. However, there is no expectation that the AER would have to evaluate a large number of variants of each of the main approaches during the development of the Guidelines *per se*.

The Rules have broader implications for debt management and strategy, and appear to give recognition to the following considerations:

- Any measurement approach implies a particular debt management strategy (or strategies).

- The financing strategy implied by a particular measurement approach may be inefficient in risk management terms.

- An efficient firm will adapt its management strategy to reduce interest rate risk to an acceptable level; and

- If the chosen measurement approach promotes the use of inefficient strategies, then, over the long term, investment will be inefficient and consumers will be affected adversely.

The AER should recognise that an efficient benchmark funding strategy will be characterised by the following practices and features:

- A comparatively small proportion of total debt matures in each year.

- Re-financing takes place in advance of the redemption date of soon-to-mature debt. In practice, an efficient firm would complete the issuance of new debt on a date which is no less than three months prior to the next scheduled maturity date. The amount raised from the new debt instrument would be invested in a low-risk asset.

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[35] ENA (2013), Response to the AER Rate of Return Guidelines – Issues Paper, Energy Networks Association, February 2013; section 5, Allowance for the Cost of Debt, page 29.

4.4. Implications of the modelling of multiple funding strategies

The Companies agree with the position taken in the Issues Paper that the Guidelines should not seek to cover every conceivable actual debt funding arrangement currently in use, or potentially available in future[36].

The Companies believe that multiple efficient funding strategies may emerge during the rate of return consultation, however the range of potential strategies should not be too wide because there is a general agreement amongst businesses that the use of a debt portfolio would involve debt instruments with staggered maturity dates. There is also a consensus that the benchmark cost of debt should have a ten-year tenor.

The Companies note that individual network service providers should be entitled to make variations to the proposed methods – on the grounds that the variations may be efficient in the circumstances of the individual business. Hence the Guidelines should not be all encompassing.

Alternative funding arrangements will have varying impacts on refinancing risk. There will therefore be implications for the return on equity. In theory, elevated levels of refinancing risk, which might occur if a benchmark firm issues short-term debt, should correspond with a higher value for the equity beta.

4.5. Trailing averages that can be replicated in practice

The Companies understand, based on the research that has been undertaken to-date, that there are essentially two types of trailing average that can be replicated in practice, in conjunction with a prudent and efficient debt financing and risk management strategy. The two types can be described as follows:

a. A trailing average of the total cost of debt (base rate and debt risk premium) which may or may not be updated annually, and which is weighted according to the debt profile of the benchmark NSP; and

b. A trailing average of the debt risk premium combined with the prevailing base rate at the time of the determination. The debt risk premium may or may not be subject to annual updating and would be weighted according to the debt profile of the benchmark NSP. Clearly, the weighting of the DRP would work more effectively (and the weighted average would adjust more regularly) if annual updating were in place.

Under both approaches, the averaging period, or measurement period, would be equal to the tenor of the benchmark corporate bond (which can be assumed to be ten-years).

The return on debt produced by the first trailing average approach could be measured using a portfolio of fixed rate debt, constructed using bonds with terms to maturity equal to the benchmark tenor. The actual maturity dates for the bonds would be relatively evenly spaced.

The return on debt produced by the second trailing average method could be assessed using a portfolio of floating rate debt which would be applied in conjunction with an interest rate swap overlay. The term to maturity of the floating rate notes would be equal to the benchmark tenor, and debt would be assumed to be issued at regular intervals.

The Companies have not, at this juncture, committed to a portfolio approach to debt or to a particular form of trailing average method. However, the Companies are keen to explore the issues further.

4.6. Technical issues to be addressed by working groups

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[36] AER (2012), Better Regulation, Issues Paper, Developing the Rate of Return Guidelines, Australian Energy Regulator, December 2012; page 31.

There is no longer a requirement in the Rules (NER and NGR) for the return on debt to be the same in each year of a regulatory period. Clause 6.5.2 (l) of the NER opens up the possibility that the return on debt allowance can be updated on an annual basis. On the issue of yearly revisions, the AEMC provided guidance as follows[37]:

> The final rule includes a provision to allow an annual adjustment to the allowed revenue for the service provider in circumstances where the regulator decides to estimate the return on debt using an approach that requires the return on debt to be updated periodically during the regulatory period. The formula for calculating the updated return on debt must be specified in the regulatory determination or access arrangement and must be capable of applying automatically.

The implementation of the annual adjustment is an issue that will need to be addressed in the working groups convened by the AER.

Transitional arrangements are another major issue that will need to be examined. The Companies would not support a trailing average method which did not provide for a satisfactory means of transitioning into the new scheme. In particular, the Companies expect that the transitional arrangements would not give rise to a situation whereby there was an under-recovery of the actual cost of debt at the time of the shift away from the rate on the day approach. The current capital structures of UE and MG are, in part, a legacy of previous arrangements for providing compensation for the return on debt. Appropriate arrangements would need to be put in place to enable the Companies to move to a new scheme.

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[37] AEMC 2012, Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper, Australian Energy Market Commission, 29th November 2012, Sydney; page 91.