



AUSTRALIAN ENERGY  
REGULATOR

GPO Box 520  
Melbourne VIC 3001  
Telephone: (03) 9290 1444  
Facsimile: (03) 9663 3699  
[www.aer.gov.au](http://www.aer.gov.au)

Our ref: D12/93880  
Your ref: ERC0134  
Contact officer: Scott Sandles  
Contact phone: (03) 9290 1487

10 July 2012

Mr John Pierce  
Chairman  
Australian Energy Market Commission

By email

Dear Mr Pierce

A handwritten signature in black ink, appearing to read 'John', written over the printed name 'Mr Pierce'.

**Additional round of consultation on cost of debt issues for the economic regulation of network service providers rule change requests**

The Australian Energy Regulator (AER) welcomes the opportunity to respond to the Australian Energy Markets Commission's (AEMC) additional consultation on the cost of debt issues for the economic regulation of network service providers (NSPs) rule change requests.

Please find the AER's submission attached.

If you have further questions regarding the information provided, please contact Scott Sandles on (03) 9290 1487.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Andrew', written in a cursive style.

Andrew Reeves  
Chairman

## Additional consultation on cost of debt issues: submission to the AEMC

The AER considers that there is merit in exploring further the determination of the cost of debt based on a trailing average approach. In particular, trailing average approaches have the benefit of more closely aligning the regulatory cost of debt with the costs incurred under typical financing practices actually adopted by network service providers (NSP).<sup>1</sup> The method proposed by the Queensland Treasury Corporation (QTC), however, needs more work and refinement. The AEMC, therefore, should amend the Rules to enable (but not codify) trailing average approaches.

More generally, the AER considers that the cost of debt method is best determined in a review by the AER outside of the rule change process. The AER's rule change proposal stated that the method for determining the cost of debt (including the definition of the benchmark) is best considered as part of the WACC review. Primarily, the AER considered that the dynamic nature of financial market practices implied that the method for determining the cost of debt is not amenable to codification in the Rules. Accordingly, the AER's proposal made no further comment regarding specific methods for determining the cost of debt.

The AER maintained this position in its submission on the AEMC's Directions Paper. The AER, however, added that at the time of the WACC review it should have the ability to consider the specific approach proposed by the QTC as well as the approaches proposed by other stakeholders.

This submission explains why the QTC methodology, or any other specific methodology to calculate the cost of debt, should not be codified in the Rules. In particular, the AER considers that:

- The objective of the AEMC's review into the cost of debt should be to determine appropriate high level principles for inclusion in the Rules—for example, that the cost of debt should be based on a benchmark efficient NSP rather than the actual practices or costs of any particular NSP. This should also include the removal or rephrasing of the "prevailing conditions in the market for funds" principle as this criterion does not permit the consideration of a trailing average approach.
- Codifying the cost of debt methodology in the Rules would not be consistent with :
  - the AEMC's previous assessment of the appropriate codification / discretion balance in the context of the framework for regulatory decision making in chapter 6A of the NER
  - the principles for an effective rate of return framework in the AEMC's Directions Paper

---

<sup>1</sup> That is, an annually updated trailing average approach is not dissimilar to the outcome from a rolling portfolio of debt issuances, which the AER understands is the structure typically adopted by service providers.

- the Energy Networks Association's (ENA's) submission in response to the AEMC's Directions Paper on the appropriate codification / discretion balance in the context of the capital expenditure incentive framework
- the AEMC's reasoning in its recent draft rule determination on the assumed utilisation of imputation credits (gamma).

Applying the AEMC's and ENA's principles and reasoning from the above documents to the current situation would suggest that the cost of debt methodology should not be codified in the Rules.

- No clear consensus among stakeholders currently exists on the optimal method for determining the cost of debt. The appropriate term of the benchmark is also a contentious regulatory issue.
- Financial markets are dynamic, and current best practices are likely to change as new or improved financing innovations are developed. The risk, therefore, that codification in the Rules may unnecessarily constrain the ability to respond to changing market circumstances is significant.

This submission also notes some issues with the method for determining the cost of debt proposed by the QTC that require further consideration. The AER has not directly responded to all of the AEMC's proposed questions on QTC's approach.<sup>2</sup> That said, the AER makes the following points in regard to the QTC's proposal:

- The proposal by the QTC to adopt a trailing average approach raises a number of practical issues associated with implementing annual updates to the cost of debt.
- The weighting method proposed by the QTC may not completely eliminate investment incentive distortions. NSPs are not obligated to invest according to their forecast investment schedule. A NSP, therefore, will still have an incentive to delay investment when the prevailing costs of debt are (for example) abnormally high.
- The quarterly one day averaging period proposed by the QTC may result in all NSPs attempting to hedge a percentage of their debt portfolios at the same time. This may flood the swap market.
- In contrast to QTC's submission, the AER considers that the QTC proposed approach to NSPs electing when to transition in or out of the averaging approach may provide NSPs the opportunity to receive windfall gains or losses.

## Codification in the Rules

The AER considers that the objective of the rate of return framework should be to outline high level guiding principles. For example, the existing NGR provides that in determining a rate of

---

<sup>2</sup> That said, this submission indirectly responds to the general issues and themes raised by the AEMC. This is particularly the case for questions six and seven. The AER also considers that the list of questions is incomplete. For example, there is no consideration of the term of the benchmark or the possible opportunities for windfall gains or losses.

return on capital it will be assumed that the service provider meets benchmark levels of efficiency.<sup>3</sup>

In this context, when assessing the framework for regulatory decision making in chapter 6A of the NER, the AEMC stated the following:

The Commission also understands that there are significant areas of regulatory decision making that should involve the exercise of judgement and discretion by the regulator. This is because good economic regulation should be sufficiently flexible to adapt to the individual circumstances of regulated businesses across different periods of time. Areas of flexibility and discretion also allow the regulatory process to evolve with experience, learning and innovation.<sup>4</sup>

Following this reasoning suggests that the method for determining the cost of debt should not be codified in the Rules.

Similarly, the AEMC's Directions Paper proposed a range of principles which the AEMC consider are reflective of an effective rate of return framework. These principles include that the rate of return framework is:

1. based around estimating a rate of return for benchmark efficient firms
2. allows methodologies for parameters to be driven by principles and reflect current best practice
3. allows flexibility to deal with changing market conditions
4. recognises the inter-relationships between some parameter values
5. creates a framework of accountability for both the regulator and NSPs in determining an appropriate rate of return.<sup>5</sup>

Applying these principles similarly suggests that the method for determining the cost of debt should not be codified in the Rules. In particular, the dynamic nature of financial markets puts at risk the ability of a prescribed method for determining the cost of debt to meet the second, third and fourth of the AEMC's principles. Further, implementation issues may conflict with the AEMC's fifth principle.

PwC, Gilbert + Tobin and NERA, in a joint report for the ENA, also outlined a range of general principles for when greater prescription in the Rules may be appropriate. These principles included that greater prescription can be provided for matters that are largely settled and are unlikely to require adjustment or refinement over time.<sup>6</sup> Applying these principles would lead to not codifying in the Rules the method for determining the cost of debt.

---

<sup>3</sup> NGR, rule 87(2).

<sup>4</sup> AEMC, *National Electricity Amendment (Economic Regulation of Transmission Services)*, Rule 2006 No. 18: *Rule Determination*, November 2006, pp. xix–xx.

<sup>5</sup> AEMC, Directions paper, National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012, March 2012, p. 91.

<sup>6</sup> PwC, Gilbert + Tobin, NERA, *Design of Capital Expenditure Incentive Arrangements, A joint report for the Energy Networks Association*, 8 December 2011, p. 13.

Moreover, given appropriate guidance in the Rules, the review of appropriate parameter values and methods are best considered by the regulator in consultation with relevant stakeholders. The AEMC's draft decision for SP AusNet and ElectraNet's consolidated rule change request on gamma recognised this and stated:

[I]t is neither appropriate nor efficient for the AEMC to conduct a review of the appropriate value of gamma or any other parameter, as this review is more appropriately carried out by the AER.<sup>7</sup>

Applying this reasoning would lead to not codifying in the Rules the method for determining the cost of debt.

A number of other factors are also relevant for the consideration of codification in the Rules more generally. These are discussed below.

### **Financial innovation and changing market conditions**

Financial markets are dynamic, and debt structuring practices are continually evolving. As such, current best practices are likely to change as new or improved financing innovations are developed.

Prior to the GFC, for example, it was common practice for firms to issue credit wrapped bonds. For a fee, these transactions allowed firms to efficiently reduce their costs of funds.<sup>8</sup> During the GFC, however, the credit ratings of most firms offering credit wrapping services were lowered. Subsequently, credit wrapping became an ineffective means of issuing debt.

In the above example, the risk of codification in the Rules based on specific financial practices is clear. Prior to the GFC, if the Rules had prescribed a particular cost of debt method based on existing market practices, this could reasonably have been set based on the credit rating of the credit wrapping firm, plus an additional credit wrapping fee in operating expenditure. If this method was prescribed, however, the outcome in the post GFC environment would be a method that is not implementable in current market conditions.

In the context of a trailing average approach, the QTC method presumes that NSPs will undertake specific hedging practices.<sup>9</sup> The QTC approach also presumes that Australian dollar denominated corporate bonds remain a reliable indicator of the efficient cost of debt for regulated NSPs. However, as demonstrated, there is a risk that at some future point the specific approach presumed by the QTC may no longer be efficient or reflective of NSPs

---

<sup>7</sup> AEMC, *Draft rule determination, National Electricity Amendment (Assumed utilisation of imputation credits) Rule 2012*, 28 June 2012, p. ii.

<sup>8</sup> Credit wrapping is a type of credit enhancement whereby a bond insurer guarantees to meet interest and principal payments if the issuer cannot. Credit wrapping is primarily used by lower rated (generally BBB) investment-grade corporates to obtain a higher rating on their bonds. This is because the rating of a credit wrapped bond is generally set at the insurer's rating. It therefore enables issuers to issue at longer maturities and lower spreads than otherwise available. RBA, *Statement of Monetary Policy*, August 2008.

<sup>9</sup> For example, at the first rate reset when the moving average commences, the NSP enters into a portfolio of swaps with equal notional values and staggered tenors from one year out to ten years. In practice, if end-of-quarter rates are used to calculate the average, the NSP would enter into forty swaps which mature at the end of each quarter out to ten years. When each swap matures, the NSP would replace the maturing swap with a new ten-year swap. QTC, *Moving average approach – detailed design issues, Supplementary submission to the economic regulation of network service providers rule change process*, 8 June 2012, p. 7.

actual financing practices. These risks were explicitly noted by CEG, in a report prepared for the Australian Pipeline Industry Association:

Market conditions change and this changes the best methodology used to estimate both the cost of debt and the cost of equity. For this reason, introducing prescription on how this is to be done is dangerous because it risks 'locking in' a methodology or approach that is not best suited to the market conditions at the time the decision is being made.<sup>10</sup>

### **Inter-related parameters**

Any codification in the Rules of the cost of debt method should also consider the corresponding impacts on other WACC parameters. In particular, a greater level of prescription in the cost of debt method may limit the ability for the AER to consider relationships between the cost of debt and the cost of equity more generally.

For example, the benchmark term assumed by the QTC represents a critical assumption that should be considered in the wider regulatory context. In the 2009 WACC review, the AER considered two primary factors in setting the term of the risk free rate at 10 years. First, the AER assessed empirical estimates of NSPs financing practices—specifically, the term at issuance of NSPs debt. Second, the AER considered the present value principle.<sup>11</sup>

The AER's final decision gave greater weight to the empirical data (as opposed to the theoretical arguments). That is, the AER accepted that refinancing risk was of greater concern to NSPs than matching their debt profiles to the length of the regulatory control period.

Notwithstanding the WACC review outcome, in the post GFC environment the empirical evidence may now suggest that a shorter term is more appropriate. Moreover, the evidence on which the AER based its WACC review decision was not clear cut. That is, the length of the benchmark term is a highly contentious regulatory issue.<sup>12</sup> In this context, the AER considers that the merits of the benchmark term are best considered in a review by the AER outside of the rule change process. Indeed, the AEMC has previously acknowledged that it is neither appropriate nor efficient for the AEMC to conduct such detailed reviews of a specific WACC parameter.<sup>13</sup>

### **Alternative approaches**

The method for determining the cost of debt has been the subject of considerable debate, and was a major driver of the AER's proposed rule change and the QTC proposal. This reflects a range of factors, including the dynamic nature of financial markets, constraints on data availability at the time of determinations and the incentives on NSPs to maximise revenue.

---

<sup>10</sup> CEG, *Response to AEMC Questions on DRP*, April 2012, p. 12.

<sup>11</sup> The present value principle contends that it is efficient for NSPs to issue debt for a term which matches the length of the regulatory control period.

<sup>12</sup> For example, both IPART and the ERA currently adopt shorter terms than the AER. Similarly, the Commerce Commission of New Zealand has also adopted a benchmark term to match the length of the regulatory period.

<sup>13</sup> AEMC, *Draft rule determination, National Electricity Amendment (Assumed utilisation of imputation credits) Rule 2012*, 28 June 2012, p. ii.

Effectively, no clear consensus exists regarding the optimal method for determining the cost of debt. For example, NSPs and the AER have set, or have proposed to set, the cost of debt based on the following approaches:

- Bloomberg's fair value curve
- CBASpectrum's fair value curve
- an average of Bloomberg's and CBASpectrum's fair value curves
- an average of Bloomberg's fair value curve and the yield on an APA Group bond
- an average of longer term corporate bonds.

Numerous approaches to extrapolating Bloomberg's fair value curves have also been used. These include extrapolation approaches based on:

- the spread between Bloomberg's seven and ten year, AAA rated fair value curves
- the average spread between shorter and longer term bonds from the same issuer.

Additionally, the ERA recently determined the cost of debt based on a broad average of individual bond yields. This decision was reviewed by the Australian Competition Tribunal. The Tribunal did not find error in the ERA's decision to rely directly on observed bond data or in the ERA's decision not to use the Bloomberg fair value curve. The Tribunal, however, did find error in the ERA's use of the simple averaging of different bond selection scenarios. That aspect was remitted back to the ERA. Subsequently, the ERA has determined the cost of debt by weighting the debt risk premiums of individual bonds by their size of issuance and remaining term to maturity.<sup>14</sup>

Moreover, other regulators—for example, Ofgem in the United Kingdom—have successfully adopted trailing average approaches.<sup>15</sup>

### **A review by the AER is a better alternative**

The AER considers that the above examples demonstrate there is a substantial risk associated with codifying specific financial practices in the Rules framework. Critically, the AEMC cannot forecast the breadth or impact of future innovations in financial market practices. Accordingly, the risk that codification in the Rules may unnecessarily constrain the AER's ability to respond to changing market circumstances is significant. As demonstrated by the level of debate regarding the method for determining the cost of debt, it is also clear that the optimal approach is not universally agreed.

For these reasons, the AER maintains that the method for determining the cost of debt (including the definition of the benchmark) should be determined in a review by the AER outside of the rule change process.

---

<sup>14</sup> ERA, *Revised decision pursuant to rule 64(4) of the National Gas Rules giving effect to the Economic Regulation Authority's proposed access arrangement revisions for the Mid-West and South-West Gas Distribution System*, 25 June 2012, pp. 5–9.

<sup>15</sup> Ofgem, *RIIO-T1: Final Proposals for SP Transmission Ltd, and Scottish Hydro Electric Transmission Ltd Final decision – Overview document*, April 2012

## QTC proposal

The AER maintains that trailing average approaches have merit, and warrant further consideration. Accordingly, the AEMC should ensure that the rate of return framework enables trailing average approaches to be implemented. That said, the AER considers that the QTC approach needs more work and refinement. This section outlines a number of the AER's specific concerns.

### Implementation of annual updates

The AER considers that the application of an annual update for the cost of debt, as proposed by the QTC, is best achieved by amending the control mechanism. That is, an additional factor could be added to the price control formula.<sup>16</sup> The cost of debt, therefore, would be updated during the annual pricing approval process.

The pricing approval process, however, is short. In particular, there is no time within this process for an extensive consultative period. As such, the update for the cost of debt would need to be determined relatively mechanistically. This process requires more consideration.

For example, if the cost of debt was determined based on a sample of observed bond yields, the characteristics of the bond sample would need to be pre-determined with sufficient certainty. Otherwise, it is likely that the bond sample would be contested every quarter (when the cost of debt is updated).

Alternatively, if indices such as Bloomberg's fair value curves are used, it is currently the case that an extrapolation approach is required.<sup>17</sup> Notably, the most recent approach to extrapolation has relied upon a sample of paired bonds. This approach is not yet well settled.

### Investment incentives and opportunities for windfall gains or losses

The QTC's supplementary submission proposed that new debt raised during the regulatory control period should be compensated at the prevailing cost of debt. For example, if a NSP forecast a large debt issuance in year three, a higher proportion of that NSP's costs of debt should be allocated to the prevailing cost of debt in year three. As NSPs would be compensated for their forecasted schedule of debt issuances, the QTC submitted that investment incentives would not be distorted.

The AER, however, considers that investment incentives may still be distorted under the weighting scheme proposed by QTC. NSPs are not obligated to invest according to their forecast investment schedule. As such, a NSP will still have an incentive to delay investment when the prevailing costs of debt are abnormally high. As a result, total revenue may be set on a cost of debt that does not reflect the costs faced by the NSP. Similar distortions may arise when the cost of debt of debt is abnormally low.

---

<sup>16</sup> For example, similar to the 'S' and 'D' factors for the service target performance incentive and demand management incentive schemes.

<sup>17</sup> This is because the longest available term of Bloomberg's BBB rated fair value curve is seven years (compared to a benchmark term of 10 years).



The weighting method proposed by QTC may also give rise to opportunities for windfall gains or losses. For example, if at the start of the regulatory control period the cost of debt is abnormally high, NSPs may have an incentive to forecast the majority of capex (and associated debt raisings) to occur in the first year of the regulatory control period. Alternatively, if the cost of debt is abnormally low at the start of the regulatory control period, NSPs may have an incentive to forecast that the majority of capex occurs towards the end of the regulatory control period.

### **One day quarterly averaging period may flood market**

The QTC submitted that under the current regulatory framework large NSPs are unable to lock in swap rates for the regulatory control period. For example, to hedge its interest rate risk under the current framework, the QTC would need to enter into swap contracts for its entire debt portfolio during the averaging period. The QTC's size, however, precludes it from entering into so many swap contracts without flooding the market.<sup>18</sup>

The QTC submitted, therefore, that the regulatory control period for the cost of debt should be a ten year moving average recalculated quarterly. Effectively, the QTC proposal converts one averaging period into 40 averaging periods. As a result, swap arrangements for the equivalent of only 2.5 per cent of its bond portfolio would be required in each averaging period, as opposed to 100 per cent (under the current regulatory framework).

The AER, however, considers that QTC has taken a narrow view of the overall market. From a micro perspective, entering into swap contracts representing only 2.5 per cent of a NSPs debt portfolio may not be an issue. From a macro perspective, however, the QTC approach results in all NSPs having a common averaging period.

Further, QTC's proposal reduces the length of the averaging period from between 10 and 40 business days to a single day. As a result, the combined effect of all NSPs issuing swaps of 2.5 per cent of their debt portfolio may also flood the swap market. Accordingly, the AER considers the quarterly averaging approach may not resolve the issue of liquidity in the swap market.

### **Possibility of windfall gains or losses—selection of methods**

The QTC proposed that a NSP should be able to select the method for determining its cost of debt at the start of the regulatory control period. In particular, two methods for setting the cost of debt were proposed: a moving average and a prevailing cost method. The QTC also proposed to use transitional arrangements for regulated NSPs moving between the two methods.

The AER considers, however, that allowing a NSP to elect if it transitions in or out of the averaging approach may lead to opportunities for windfall gains or losses. This may occur if a NSP knows, or has a high degree of certainty as to what the prevailing conditions will be at the time it selects its cost of debt method—for example, when the prevailing cost of debt is

---

<sup>18</sup> And therefore causing the cost of the swaps to increase (making the corresponding hedges ineffective).

near historically high or low levels. The AER considers more consideration should be given to understanding these possibilities and mechanisms to mitigate this outcome.