

Western Power Corporation

COMMENTS ON ERA'S

DISCUSSION PAPER ON THE WACC METHODOLOGY TO APPLY TO WESTERN POWER CORPORATION'S NETWORK IN THE SOUTH WEST INTERCONNECTED SYSTEM

Western Power Corporation ("WPC") is pleased to have an opportunity to respond to the discussion paper ("the paper") prepared by the Allen Consulting Group ("ACG") for the Economic Regulation Authority ("the ERA") on the Weighted Average Cost of Capital ("WACC") methodology.¹

WPC's response makes some general and specific comments on the material contained in the paper, and on the broader issues the material raises. These comments are, however, brief and restricted to a number of the key issues for the reasons outlined below. For the same reasons, WPC's comments do not cover any particular parameter estimation issues. WPC will provide detailed views on all the matters raised in the paper as part of its proposed access arrangement.

1. General comments

WPC's general comments focus on:

- The scope of the paper; and
- Issues not addressed within the paper.

1.1 The scope of the paper

WPC is aware that under Section 6.65 of the Electricity Networks Access Code 2004 ("the Code"), the ERA is empowered to make a determination on WACC methodology. WPC must then pay regard to this determination in its proposed access arrangement, unless it provides an alternative methodology that would better achieve the objectives set out in Section 6.4 and the Code objective.

The scope of the paper appears to go beyond the Code's requirements. ACG outline both its preferred methodology for estimating the WACC and its preferred assumptions in applying that methodology. In fact the discussion in regard to ACG's preferred assumptions makes up over half of the paper.

However, WPC does note that ACG has also been careful to:

- Distinguish between its recommendations on its preferred:
 - Methodology;
 - Assumptions in applying that methodology; and
- Highlight that the ERA specifically instructed it to provide advice on the latter.

¹ Allen Consulting Group, Electricity Networks Access Code 2004: Advance Determination of a WACC Methodology, Report to the Economic Regulation Authority, Western Australia, January 2005.

This extension of the scope of the paper raises several concerns.

First, it is difficult to establish what significance stakeholders should attach to ACG's preferred assumptions in applying its methodology. One interpretation is that the WACC estimate provided is the "answer" the ERA is expecting WPC's proposed access arrangement to produce. If this is the case, then our concern would be that the process intended by the propose-respond model underpinning the Code has not been correctly followed. The "propose-respond" approach is central to the access arrangement submission and review process.

Second, the time constraint as defined in the Code, provides limited time for responses, particularly taking into account the broadening of the scope. This time constraint was expected and well understood, but the additional scope of the paper has exacerbated the problem of providing an adequate response.

Indeed, there are a number of issues that have not been addressed in this response. WPC will provide detailed views when it presents its proposed access arrangement taking into account its regard to the ERA's determination on the WACC methodology.

If the ERA is seeking to make a determination on the WACC methodology that includes the application of that methodology as well, then it would be appropriate for it to state clearly that this is the case. It is requested that the ERA clarify its position on this issue as soon as possible.

The propose-respond model

WPC's understanding is that the propose-respond model underpins the Code. The ERA would be aware of the substantial amount of guidance recent regulatory developments provide on the operation of this model.

WPC will be relying on these and other regulatory precedents in developing its proposed access arrangement and will be providing a detailed rationale for doing so. For present purposes, however, it is sufficient to summarise the conclusions drawn by the Australian Competition Tribunal ("ACT") in its December 2003 decision on GasNet's appeal on the ACCC's decision on its proposed access arrangement prepared in accordance with the propose-response model contained in the *National Third Party Access Code for Natural Gas Pipeline Systems*,.

The ACT expressed the view that it is beyond the power of the Regulator not to approve the service provider's access arrangements where the arrangements proposed fell within reasonable and acceptable ranges:

*"...where the AA proposed by the Service Provider falls within the range of choice reasonably open and consistent with Reference Tariff Principles, it is beyond the power of the Relevant Regulator not to approve the proposed AA simply because it prefers a different AA which it believes would better achieve the Relevant Regulator's understanding of the statutory objectives of the Law."*²

Importantly, it applied these concepts to the Regulator's assessment of the Rate of Return. The ACT stated that:

² Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6, paragraph 29.

“Contrary to the submission of the ACCC, it is not the task of the Relevant Regulator under s 8.30 and s 8.31 of the Code to determine a ‘return which is commensurate with prevailing conditions in the market for funds and the risk involved in delivering the Reference Service’. The task of the ACCC is to determine whether the proposed AA in its treatment of Rate of Return is consistent with the provisions of s 8.30 and s 8.31 and that the rate determined falls within the range of rates commensurate with the prevailing market conditions and the relevant risk.”³

Having clarified that the Regulator’s role is not to set the Rate of Return but to assess if it falls within acceptable ranges under the provisions of Section 8.30 and 8.31 of the Code, the ACT concluded that:

“When the proposed AA was delivered by GasNet to the ACCC, insofar as it contained a Rate of Return which was used to determine the Reference Tariff established by the use of the CAPM, the only issue for the ACCC to determine in respect of the Rate of Return was whether GasNet had used the model correctly. That is, whether it had used the CAPM to produce a Rate of Return which was consistent with the conventional use of the model. If GasNet had done so, then there was no occasion to refuse to approve the proposed AA on the basis that the Rate of Return had not been determined on a basis which was consistent with the objectives contained in s 8.1.”⁴

1.2 Issues not addressed within the paper

The broader scope of the paper invites ACG to outline its views on the role of the cost of capital in economic regulation and make an estimate which it presumably believes is consistent with this objective. ACG conclude that the key objective is to provide an “unbiased” estimate of the actual cost of capital associated with regulated activities.⁵

ACG’s discussion on the issues identified in the paper raises several concerns.

First, ACG’s views would appear to be its general views on the role of the cost of capital in economic regulation rather than any attempt to reconcile these views with the Code’s objectives. So while the objective identified by ACG might be consistent with the Code, it is not obvious how it has arrived at this conclusion.

Second, ACG’s interpretation of the role of the cost of capital in economic regulation makes no mention of the substantial amount of guidance recent regulatory developments provide on these issues.⁶ This is particularly surprising given how strongly ACG relies on regulatory precedent elsewhere in its paper.

There has been a substantial amount of guidance provided by a variety of independent experts on the:

- substantial uncertainties associated with setting access prices in general, and WACC in particular;

³ Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6, paragraph 42.

⁴ Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6, paragraph 45.

⁵ ACG, 2005, page 8.

⁶ ACG make references to a couple of the relevant regulatory precedents but only in relation to specific technical issues associated with WACC estimation and then only to state that it has ignored them.

- disproportionately high costs of setting access prices too low rather than too high; and
- need, in light of the above, to err on the side of encouraging investment.⁷

It is open to question whether providing an “unbiased” estimate of the cost of capital is consistent with these regulatory developments (i.e. the need to err of the side of encouraging investment).⁸

ACG appears to create the impression that its interpretation of the role of the cost of capital in economic regulation is entirely uncontroversial. Recent regulatory developments suggest that this is not the case.⁹

Third, ACG’s paper also provides minimal discussion on the limitations of its preferred methodology creating an inaccurate impression of the methodology’s rigour.

A “discussion” paper on WACC methodology - which also seeks to provide the “answer” - but does not seek to outline the range of views that exist on the key issues (e.g. the limitations of the methodology), would not appear to be fulfilling a basic objective of such an exercise.

2. Specific comments

WPC’s specific comments focus on:

- the use of the Capital Asset Pricing Model (“CAPM”);
- dealing with uncertainty in the estimation process;
- what the use of the CAPM, as proposed by ACG, implies for the rest of the review;
- the selective use of regulatory precedents; and
- various other issues of principle.

WPC does not believe it is appropriate to develop its views on parameter values at this time. It intends to provide a fully justified cost of capital estimate as part of its proposed access arrangement.

2.1 Using CAPM

The substantive recommendation made by ACG in respect of WACC methodology is to use the CAPM.

The most interesting aspect of ACG’s view is not the recommendation itself, but the rationale provided for it. The rationale is interesting because it goes to the key issue in cost of capital estimation. The key issue is not which model to use, because the choice in that respect is limited, but how to apply it.

According to ACG the key objective is to provide an “unbiased” estimate of the actual cost of capital for the regulated activities. Given this, it would have been reasonable to expect ACG to

⁷ WPC intend to make a fuller submission on the relevance and implications of this guidance in due course.

⁸ ACG would, however, appear to provide somewhat contradictory messages on this point in the paper.

⁹ See ACG’s work undertaken in the context of the Productivity Commission’s Review of the Gas Access Regime.

assess the options according to their capacity to meet this objective. Such an assessment has not been undertaken.

The recommendation to use the CAPM fails to mention its ability to meet the key objective. CAPM has been recommended because:

- there is “substantial precedent” to use CAPM for WACC determination under the Code;¹⁰
- primarily as a result of the above, it is “widely used and understood”; and
- there is a “substantial amount of information available that can be drawn upon” to assist in its application.

WPC’s assessment in regard to the use of the CAPM is as follows:

- the CAPM is used because it is the only readily available model;
- the substantial precedent claimed for its use is therefore largely irrelevant;
- the CAPM is only widely understood in a narrow, mechanical way;
- the CAPM is not well understood as one among a number of asset pricing models;
- the CAPM is not well understood in terms of its empirical validity, which is limited;
- in commercial practice these limitations are understood and reflected in its application;
- regulatory precedent has largely chosen to ignore the limitations of the CAPM; and
- imposing the CAPM via a Code shows a lack of understanding of the reliability of the results obtained from its application.

The discussion and reasons for choosing the CAPM owe little to the intrinsic merits of the model. In other words, they have not addressed the limitations of the methodology and the implications for dealing with the associated uncertainties.

WPC broadly accepts the use of CAPM to estimate the cost of capital but this is not the key issue. The key issue is how it is applied.

2.2 Dealing with uncertainty

It is apparent that:

- the cost of capital is one of the most important building blocks in terms of revenue adequacy and the incentives provided for investment;
- there are major uncertainties involved in estimating the WACC; and
- regulators have considerable discretion.

In other words, regulators have considerable discretion over a highly uncertain and material variable.

¹⁰ Although in this case, it is not obvious which precedents ACG is talking about other than the Code referring to its possible use.

A critical question in cost of capital estimation is therefore how regulators use that discretion in estimating the cost of capital (i.e. how the CAPM is applied). On this issue, the paper is largely silent. WPC will be providing, with its access arrangement, material on how it might be possible for regulators to use their discretion in a more transparent and objective manner.

2.3 Implications of the approach for addressing commercial risks

ACG's preferred application of CAPM is to ensure that it only reflects market or non-diversifiable risks. In particular, it states that *"A cornerstone of modern financial economics is that much of the risk that is associated with the returns to a particular asset can be eliminated at no cost, merely by holding that asset together with a broad portfolio of other assets."*¹¹

This actually understates the case: The theory assumes the elimination of all such risks. But this is only a theory, and empirical observation proves that it does not hold in practice as we do not observe the extent of portfolio diversification required by theory. This again draws into question the reliability of the results produced by a mechanical CAPM application.

Notwithstanding these issues, the way regulators apply the CAPM is important because it has real implications in accounting for specific risks in the review. In particular, it implies that the cash flows must account for all such risks. In other words, the regulated business is obliged to develop expected value cash flows to produce consistency with how regulators estimate the cost of capital.

This is important for several reasons which are implicit in ACG's discussion:

- first, the Code does not refer to risks as defined under the CAPM. Instead, it refers to *"including a return on investment commensurate with the commercial risks involved."* ACG appear to equate "commercial" risks with CAPM risks, but this interpretation is unlikely to be consistent with the meaning of the term in this context;
- second, ACG argues that much of the risk associated with particular stocks is diversifiable; and
- third, as ACG notes *"In practice, it is impossible to tell whether or not a particular event would be characterised as giving rise to diversifiable or non-diversifiable risk, or to the division between the two."*¹²

In other words, CAPM as applied by ACG does not capture all risks. Moreover, the risks it does not capture would appear to be significant but, in practice, it is impossible to tell precisely what risks the CAPM does and does not capture. In the face of this, the approach requires regulated businesses to generate expected value cash flows that capture these risks, or at least the (undefinable) proportion of them CAPM does not capture.

In reality, ACG's preferred application of the CAPM is inconsistent with commercial practice and will not capture in the cost of capital the commercial risks involved in undertaking regulated activities. This will only happen if the cash flows incorporate these costs, but as ACG concedes, that is virtually impossible to do.

¹¹ ACG, January 2005, page 7.

¹² ACG, January 2005, page 30.

2.4 WACC formulation issues

ACG would appear to leave the choice of approach to tax largely up to the ERA (although it would appear to prefer the post-tax approach). It is largely indifferent about the adoption of a real or nominal approach.

WPC would prefer to see a real pre-tax approach taken to the review. The estimation of an effective tax rate, which is required under a post-tax approach, inevitably sets up a regulatory dynamic which can only lead to the process becoming more complex and intrusive over time, simply because it provides both parties with an incentive for it to become so. The approach therefore has poor incentive properties.

WPC is comfortable with an inflation-indexed approach provided that the ERA draws appropriate conclusions from its application, as is discussed below.

2.5 The limited use of precedent

ACG has used regulatory precedent selectively but has ignored a number of key areas. For example, it:

- ignores broader regulatory developments in establishing how the cost of capital should be applied under economic regulation;
- disregards other evidence from review bodies, such as the ACT;
- relies heavily on regulatory precedents from other regulators; and
- ignores regulatory precedents from the ERA and its predecessors (e.g. in relation to the Dampier to Bunbury Natural Gas Pipeline and the Goldfields Gas Pipeline).

2.6 Other issues

There are a number of other issues that, given the available time, WPC only mentions here but will address more fully when submitting its proposed access arrangement. These include:

- inflation risk – the paper asserts that the inflation-indexed approach shelters the regulated business from inflation risk. This is not entirely accurate. The inflation-indexed approach broadly protects regulated businesses from changes in their cash costs, and can retain the value of the asset base. However, it will not shelter the business from all inflation risk unless it can borrow in index-linked terms. In practice, there are a number of reasons why replicating the cost of debt found in current index-link rates is unlikely to be feasible;
- the key issue in relation to the use of forward looking measures of the market risk premium is their statistical reliability relative to backward looking measures. The evidence suggests that the former are less reliable than the latter, which the weight attached to them should reflect. Moreover, ACG:
 - make the assertion: *“In fact, one reason for the rising realised market risk premium is precisely that the forward-looking market risk premium (and therefore the equity discount rate) has been falling”*.¹³ This assertion is not supported by any evidence nor does it appear to provide a testable hypothesis; and

¹³ ACG, January 2005, page 25.

- make the following statement in drawing a conclusion on the MRP: *“There are numerous factors indicating that the market risk premium should have fallen over time.”*¹⁴ This is an inappropriate statement because it is not ACG’s task to recommend parameter assumptions on what it believes “should have” happened. Moreover, given that the theory does not predict market risk premia anywhere near those inferred from the market evidence, trying to use the theory to predict the direction in which they might have moved, would appear to involve assuming a degree of estimation measurement accuracy that goes well beyond the limitations imposed by the available information.
- In relation to beta, WPC note that ACG’s endorsement of a beta of 1 would appear to reflect somewhat dated advice, which is rather more qualified than recent ACG reports for other regulators. In particular, ACG asserted at that time that adopting a beta of 1 would be “conservative”. We note that in its recent report for the QCA, ACG merely concludes that *“the empirical evidence, together with the desirability of maintaining stability in regulatory decisions across time and consistency in regulatory decisions across companies justifies the use of an equity beta of 1.00 (for a gearing level of 60%) for the average regulated electricity distributor.”*¹⁵
- In relation to gamma, the support for ACG’s position does not contain enough detail to understand the basis for the conclusion made. It also ignores more recent market evidence on the value of imputation credits.¹⁶

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¹⁴ ACG, January 2005, page 27.

¹⁵ Allen Consulting Group, Queensland Distribution Network Service Providers, Cost of Capital Study, December 2004, page ix.

¹⁶ Cannavan, D., F. Finn and S. Gray, 2004, The value of imputation tax credits, Journal of Financial Economics, Vol. 73, Issue 1, July 2004, page 26.