ActewAGL

Access Arrangement for the ActewAGL Gas Distribution System

Response to the Independent Competition and Regulatory Commission's Draft Decision

August 2004

ActewAGL is Australia's first genuine multi-utility, combining electricity and gas network and retail operations with interests in water and wastewater services management. The $800 million Joint Venture partnership provides services to close to 140,000 electricity, water and wastewater customers and just over 96,000 natural gas customers in the Canberra region.

Ownership of ActewAGL is shared equally between AGL, the nation's largest energy provider, and the ACT Government, through ACTEW Corporation. ActewAGL is organised as two partnerships—distribution and retail. ActewAGL Distribution partners are ACTEW Distribution Limited and AGL Gas Company (ACT) Ltd.

ActewAGL

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Overall assessment of the Commission's approach

ActewAGL has serious concerns about the approach taken by the Commission in the review of the proposed Access Arrangement. These concerns are summarised below and addressed in detail in the following chapters.

Most importantly, ActewAGL believes that the Commission has not adequately assessed ActewAGL's proposals and supporting arguments. It has instead adopted its own proposals, which in several key areas are based on flawed or limited analysis. This approach is evident in many areas including:

- The Commission's adoption of a point estimate for the WACC which is well outside ActewAGL's proposed range, fails to recognise the inherent uncertainty with the CAPM model and the implications of that uncertainty, and is based on unreasonable estimates for the equity beta, the debt margin and the value of imputation credits;

- The Commission's conclusion that elements of ActewAGL's non-capital costs are not efficient or prudent and should be cut, despite evidence that costs have fallen substantially and are now, according to independent consultants, *well below* the level considered reasonable for comparable firms;

- The Commission's rejection of ActewAGL's cost pass-through proposals, in preference for continuation of the current arrangements, despite the fact that the current arrangements are largely outdated; and

- The Commission's rejection of ActewAGL's forecast for residential gas demand, despite evidence from several independent sources supporting ActewAGL's case that the forecasts are 'the best estimates arrived at on a reasonable basis', as required under the Gas Code (s. 8.2).

ActewAGL believes that by taking this approach the Commission has not met the requirements of the Gas Code. The recent ruling by the Australian Competition Tribunal (ACT) in the GasNet appeal (ACT 2003) is particularly relevant here:

> '… it is beyond the power of the Relevant Regulator not to approve the proposed Access Arrangement simply because it prefers a different Access Arrangement (paragraph 29)'

ActewAGL believes that the Commission has taken the approach that the Tribunal was so critical of – rejecting ActewAGL's proposals in favour of its own, whilst failing to show that ActewAGL's proposals are unreasonable.

The Tribunal emphasised that:

> 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'*. (paragraph 42).

Yet the Commission has clearly taken the approach that the Tribunal has ruled against. In the draft decision the Commission advises that:

> The Code requires the Commission to *determine* the rate of return on capital …. (p. xix, emphasis added).

The Tribunal also explained the need to act in accordance with section 2.24 of the Gas Code when assessing the proposals and requiring amendments:

> 'the power of the Relevant Regulator to require amendments, or to itself draft and approve its own AA, does not arise until it is of the opinion that the AA proposed by the Service Provider does not comply with the Code, and in determining the question of compliance, it must act in accordance with section 2.24' (paragraph 30)

ActewAGL believes that the Commission has not acted in accordance with the requirements of section 2.24. For example, the draft decision to cut both capital and non-capital expenditure does not take account of 'the operational and technical requirements necessary for the safe and reliable operation of the covered pipeline' (s. 2.24). Information provided in the following chapters (5 and 6 and Attachment A) indicates that the requirements for a safe and reliable system could be compromised if costs are below those proposed by ActewAGL. ActewAGL also believes that the requirement that the 'service provider's legitimate business interests and investment in the covered pipeline' be recognised (s. 2.24) is not met under the Commission's proposals (discussed in Chapter 1 and Attachment A1).

ActewAGL is also concerned that the Commission has failed to take account of the findings of the Productivity Commission's review of the gas access regime. While the final report was only released on 10 August, after the draft decision, the Productivity Commission's views had been made clear in its draft report (PC 2003) and its review of the National Access Regime (PC 2001). The Productivity Commission's views on the potential costs of setting the rate of return too low are particularly relevant to this review. Other regulators have also recognised the need to take a conservative approach. For example, in its most recent decision for the Victorian gas distribution networks, the Essential Services Commission recognised the need to take a 'conservative approach' and a 'long term perspective' where there is considerable uncertainty (ESC 2002). The Commission's approach in the draft decision of selecting a WACC *well below* ActewAGL's reasonable range is clearly at odds with this recommended approach.

ActewAGL believes that the Commission should reconsider the proposals and supporting arguments that ActewAGL has provided, in light of the requirements of the Gas Code. The proposed revisions to the Access Arrangement should be accepted unless the Commission can establish that they are unreasonable and do not comply with the requirements of the Gas Code.

Key Issues

In the following chapters ActewAGL addresses each part of Commission's draft decision. The most significant of ActewAGL's concerns are summarised below.

Cost of capital

ActewAGL's major concern is the WACC (weighted average cost of capital) used by the Commission in the draft decision. The Commission has calculated a WACC of 6.82%. This is well below ActewAGL's proposed range of 7.62% to 8.22%.

The Commission's draft decision at 6.82% is a full 72 basis points lower than the average of the most recent ACCC, Essential Services Commission (ESC), IPART and Queensland Competition Authority (QCA) decisions. The Commission's decision is also lower than all but one of the recent Australian electricity distribution/transmission decisions. The draft decision is also well below the 7.75% allowed in the 2000 final decision, despite the fact that similar real risk free rates apply (2.3% then, 2.2% now)

ActewAGL rejects the Commission's WACC for the following reasons:

- ActewAGL believes that its proposed range for the real pre-tax WACC (7.62% to 8.22%) is reasonable and the proposed ranges and point estimates for each of the parameter inputs are reasonable.

- The Commission has failed to show through its analysis and arguments that the proposal is unreasonable.

- The Commission's alternate approach of selecting its own point estimates, which are outside or at the bottom end of ActewAGL's proposals:

    - fails to take account of the considerable uncertainty concerning the accuracy of both the framework used to estimate the WACC and the individual parameter values used within that framework;

    - fails to take account of the potential costs of setting the WACC at or below the bottom end of reasonable ranges (as argued by the Productivity Commission); and,

    - is inconsistent with the recent ruling by the Australian Competition Tribunal (in the GasNet appeal) and its interpretation of the role of the regulator under the Gas Code.

- The Commission has rejected ActewAGL's proposed equity beta range of 0.98 to 1.1 and instead adopted a point estimate of 0.9. In doing so the Commission is allowing the same compensation for systemic risk as it allowed for ActewAGL's electricity operations. The Commission's analysis is flawed on at least four accounts:

- The Commission is in error when it implies conferring an equity beta of 1.0 would imply that ActewAGL's operations had the same level of systemic risk as the market average;

- ActewAGL believes the Commission erred in setting an equity beta of 0.9 for electricity (which is the lowest compensation for systemic risk provided by any Australian energy regulator[1]). While it is true that some regulators have adopted an asset beta of 0.4 and some regulators have adopted a debt beta of 0.06 or above, *no other regulator has ever combined these two assumptions;*

- The Commission made a statistical error when it concluded the NECG data on gas asset betas supported its position on ActewAGL's asset beta;

- Even if an equity beta of 0.9 is considered appropriate for electricity distribution, it is not appropriate for gas distribution. We present new evidence on the relative variability of volumes that shows that the systemic risk associated with our gas operations exceeds that associated with our electricity operations.

- ActewAGL also believes that the debt premium allowed in the draft decision is inappropriate. The debt premium:

  - should be higher than provided for in the electricity decision to reflect the greater default risk associated with volume risk; and

  - should be higher given the implied credit rating associated with ActewAGL's gas operations if they were operated by a standalone 60% geared business.

- ActewAGL believes that the Commission's analysis of the marginal investor, underpinning its valuation of imputation credits (value of gamma), is also flawed.

- ActewAGL also presents new analysis which suggests that allowance should be made for equity raising costs.

Overall, having examined in detail the Commission's response to its WACC proposal, ActewAGL remains convinced that our proposed WACC range is reasonable.

[1] With the exception of the QCA May 2001 electricity distribution decision where a manifest mathematical error led to an equity beta of 0.71 being calculated.

Non-capital costs

ActewAGL disagrees with the Commission's draft decision to cut forecast non-capital costs by $5.5m[2]. The decision is unreasonable for the following reasons:

- ActewAGL's proposed non-capital costs are based on the efficient (least cost) delivery of services. Analysis by consultants Parsons Brinckerhoff (PB) confirms that ActewAGL is performing efficiently, with costs highly competitive with comparable firms. PB concludes that ActewAGL's forecast non-capital costs are reasonable.
    - The Commission's required cuts in ActewAGL's efficient costs can only be achieved by reductions in service standards. For example, the current high standards for emergency responses in the ACT and Queanbeyan cannot be sustained if funding for the necessary equipment and personnel is cut.
- The Commission has adopted a different approach to ActewAGL for determining forecast non-capital costs. ActewAGL believes that the Commission has made a material error in calculating its allowed asset management and asset services costs. As a result, the allowed costs are too low.
    - The Commission has mistakenly taken PB's $108 as the efficient cost per customer for 2003/04 (draft decision, p. 91, final paragraph). *The $108 is actually the 2002/03 controllable cost per customer in 2002/03 dollars*, as indicated in the table and text in ActewAGL's follow-up response to the pre draft decision meeting (ICRC 2004a). The $108 must be inflated to 2004/05 real dollars to get the base value for forecasting.
    - The base used by the Commission is therefore too low, as are the asset management and asset services cost forecasts for each subsequent year.
- While ActewAGL maintains that its approach of identifying the efficient levels of asset management and asset services costs is appropriate, and endorsed by PB, it accepts the Commission's approach, *provided* it is recalculated using the correctly inflated base cost per customer.
- The Commission's forecasts for unaccounted-for-gas are also too low. The cost should be revised to reflect the tender price.

ActewAGL is concerned that the Commission draws conclusions about ActewAGL's performance that are not supported by rigorous analysis. For example, the Commission has concluded (pp. 90-91), in relation to the costs of Agility delivering

[2] $5.5m is the cut in non-capital costs in real 2004/05 dollars over the 5.5 years of the Access Arrangement.

asset management and asset services, that it is not satisfied that the costs associated with the contracts are efficient or that the costs are those of a prudent service provider.

However, a detailed assessment of ActewAGL's costs by Parsons Brinckerhoff has shown that:

- ActewAGL has achieved significant efficiencies since the 2000 final decision (as measured by accepted industry benchmarks such as operating cost per kilometre of main and per customer). Total operating cost per customer has been reduced by around 44% over the 5-year period in real terms. Operating costs per kilometre remain much lower than other Australian gas distribution businesses; and,

- ActewAGL's costs compare favourably with the costs of other Australian gas distributors. When account is taken of ActewAGL's relatively low customer density (relatively few customers per kilometre), ActewAGL's costs are *well below* the level that could be justified.

The Commission's claim about the performance of ActewAGL and Agility is clearly not supported by empirical evidence.

Service standards

ActewAGL has several significant concerns with the draft decision (s. 3.6.3) that ActewAGL be required to maintain 'current' service standards:

- Provisions such as these should not be included in an Access Arrangement, which is intended to set out the terms and conditions on which gas suppliers may gain access to the gas distribution network.

- The utilities licence and the various codes made by the Commission under the Utilities Act 2000 already provide a comprehensive regulatory regime for utility services in the ACT. Those standards are monitored by the Commission and enforced under the licence and the Utilities Act. There is no sound reason for adding an additional layer of regulatory complexity on top of the existing scheme.

- The Commission offers a vague explanation of how the scheme would work – it 'will have regard to the whole suite of indicators'. However, many complex issues would have to be resolved before such a scheme could be implemented.

Capital expenditure

ActewAGL rejects the Commission's draft decision to cut the capital expenditure program by 2.8%. The required cut in stay-in-business capital expenditure would compromise ActewAGL's ability to provide a safe and reliable network.

ActewAGL's proposal is based on detailed modelling and analysis of the condition of assets and statutory service requirements. The planning and approval processes have been examined by the Commission's own consultants and found to be sound.

However, the Commission has still decided to require a substantial cut in capital expenditure, without assessing the likely implications.

Consultants Parsons Brinckerhoff (PB) concluded that ActewAGL's proposed stay-in-business expenditure was *below* the industry accepted long term average level required to ensure that the network is reliable and secure.

Cost pass-through

ActewAGL is concerned that the Commission has failed to adequately assess its cost pass-through proposal and has instead proposed maintaining the pass-through events set out in the 2001 Access Arrangement.

The Commission has failed to recognise that current pass-through events are either:

- no longer relevant (eg introduction of Utilities Act, heating value measurement, introduction of retail contestability); or

- would benefit from clarification as to their nature and extent (eg authorisation fees and government taxes).

By rejecting ActewAGL's proposed pass-though events, the Commission is requiring ActewAGL to bear significant additional risk.

The Commission has acknowledged in its final decision for ActewAGL's electricity network that there is a strong likelihood that a change resulting from a service standard event would result in a material cost increase (ICRC 2004a, p. 123). As a result, it has allowed a service standard event to be included in the pass-through arrangements for electricity.

Despite this, the Commission has rejected ActewAGL's proposal to include a regulatory event, which is similar to a service standard event, but defined to take account of factors specific to the gas industry, including the possibility of changes to the Gas Code. As a result, ActewAGL will be exposed to the risk of material cost increases.

If ActewAGL's pass-through proposal is rejected, then ActewAGL must be compensated for the additional risk through a higher WACC.

1. Introduction

1.1 Background

In December 2003 ActewAGL submitted to the Independent Competition and Regulatory Commission (the Commission) its proposed revisions to the Access Arrangement for its natural gas system in the ACT, Queanbeyan and Yarrowlumla.

Since then ActewAGL has participated in an extensive review process with the Commission and the Commission's consultants, McLennan, Magasanik Associates (MMA), Energy Consulting Group (ECG) and PricewaterhouseCoopers (PwC).

ActewAGL has to date submitted the following documents to the Commission:

- Access Arrangement and Access Arrangement Information, 30 December 2003;
- Proposed Revisions, 30 December 2003 – supplementing the required revised Access Arrangement and Access Arrangement Information, and intended as a background guide to the proposed changes;
- Response to the Commission's issues paper, April 2004;
- Response to the consultants' (MMA and ECG) draft report, May 2004;
- Response to the consultants' (MMA and ECG) preliminary final report, June 2004; and,
- Further information in response to pre-draft report meeting, July 2004;

ActewAGL has also provided detailed written responses to information requests from MMA and ECG and met with the Commission and the consultants on several occasions.

The purpose of this submission is to respond to the Commission's draft decision. The submission follows the same structure as the draft decision, covering each of the required elements of the Access Arrangement.

Before ActewAGL's detailed comments on each element of the draft decision are presented in the following chapters, it is necessary to review the key elements of the Gas Code, which sets out the requirements for the Access Arrangement and the Commission's review of it. ActewAGL believes that some critical aspects of the Commission's draft decision have not adequately taken account of the requirements of the Gas Code.

1.2 The Gas Code

The Gas Code sets out the detailed regulatory principles, objectives and processes that the regulator must follow when assessing a proposed Access Arrangement and subsequent revisions.

Under section 2.24 of the Code the Commission is required to take the following factors into account when assessing a proposed Access Arrangement:

- the service provider's legitimate business interests and investment in the covered pipeline;
- firm and binding contractual obligations of the service provider or other persons (or both) already using the covered pipeline;
- the operational and technical requirements necessary for the safe and reliable operation of the covered pipeline;
- the economically efficient operation of the covered pipeline;
- the public interest, including the public interest in having competition in markets (whether or not in Australia);
- the interests of users and prospective users; and,
- any other matters that the relevant regulator considers are relevant.

Under section 3.4 of the Gas Code the Commission must also take into account the objectives set out in section 8 of the Code, which seek to achieve a reference tariff which is designed:

- to provide the service provider with the opportunity to earn a stream of revenue that recovers the costs of delivering the Reference Service over the expected life of the assets;
- to replicate the outcome of a competitive market;
- to ensure the safe and reliable operation of the pipeline;
- not to distort investment decisions in pipeline transportation systems or in upstream and downstream industries;
- to be efficient in level and structure; and,
- to provide an incentive to the service provider to reduce costs and to develop the market for reference and other services.

ActewAGL believes that the Commission has not adequately addressed some of the requirements of the Code.

The requirement in section 2.24 to take account of the operational and technical requirements necessary for the safe and reliable operation of the covered pipeline is not adequately addressed by the Commission. The Commission has rejected part of ActewAGL's proposed stay-in-business capital expenditure program, without a full assessment of the likely impacts on the safe and reliable operation of the network. This is discussed further in Chapter 6. The Commission has also proposed that ActewAGL's non-capital costs be reduced significantly from proposed levels, without adequate regard for the possible impacts on safety and service standards. These are set out in Attachment 2.

Another key requirement is that the legitimate business interests of the service provider are taken into account (s. 2.24). In its 2000 final decision on ActewAGL's Access Arrangement, the Commission took account of the financial viability of ActewAGL, arguing that:

> The projected outcomes should be consistent with maintaining an investment grade credit rating (ICRC 2000, p. 113).

Similarly, in a recent review of ActewAGL's credit rating model, Deloitte (2004) noted that:

> There appears to be a general consensus between regulators and owners of utility infrastructure that "the financial ratios of [a] regulated distribution business should not fall below those implied by an investment grade or BBB credit rating"[3].

ActewAGL believes that, in line with the Gas Code requirements regarding the service provider's legitimate business interests, the Commission's decision should provide an investment grade credit rating.

However, in its recent review Deloitte concluded that:

> Based on the analysis in the Final Model using the S&P 2003 credit ratings criteria the indicative credit ratings over the five years ending 30 June 2010 are below investment grade (Deloitte 2004).

This outcome clearly does not recognise ActewAGL's legitimate business interests.

Financial indicators are discussed in Attachment 1.

The Commission's approach, particularly in relation to the setting of the WACC, is also inconsistent with interpretations of the Gas Code by the Australian Competition Tribunal. In its consideration of the GasNet appeal the ACT noted that:

> where the Access Arrangement 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 Access

[3] Office of the Regulator-General, Victoria "Electricity Distribution Price Determination 2001-05: Volume 1 Statement of Purpose and Reasons", September 2000, page 164

> Arrangement simply because it prefers a different Access Arrangement (ACT 2003, Paragraph 29).

The Tribunal also found that

> 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 (Paragraph 42).

ActewAGL believes that the Commission has contradicted this ruling in its approach to the WACC. The Commission says in the draft decision that:

> The Code requires the Commission to *determine* the rate of return on capital …. (p. xix, emphasis added).

As indicated by the Tribunal's ruling, the regulator's role is not to 'determine' a rate. Its role is to assess the proposals presented by the service provider, in accordance with the requirements of the Code. ActewAGL believes that the Commission has not met these requirements.

ActewAGL's concerns about the Commission's setting of the WACC, and its consistency with the requirements of the Gas Code, are discussed further in Chapter 8.

1.2.1 Review of the gas access regime

In the draft decision the Commission discusses the Productivity Commission's review of the gas access regime and concludes that:

> … to the extent that the Commission considers any recommendations of the Productivity Commission and the Australian Government's response to be relevant to its consideration of the proposed revisions to the Access Arrangement, it will take them into account …. (ICRC 2004a, p. 24)

ActewAGL acknowledges that the Productivity Commission's final report was not released until 10 August 2004, after the draft decision was released. However, the Productivity Commission's draft report (PC 2003) and its Review of the National Access Regime (PC 2001) provided a clear guide to the Commission's position on key issues. The Productivity Commission has raised many relevant issues which the Commission should consider in its final decision.

As outlined in Chapter 8 of this response, the Productivity Commission's conclusions in relation to the setting of the rate of return are particularly relevant to this review. ActewAGL believes that the Commission must take the Productivity Commission's findings into account, and as a result adopt a higher WACC.

2 Services policy

2.1 Introduction

The proposed services policy in the Access Arrangement defines the services to be provided then sets out the availability of the services, the procedure for requests for services and the procedure for connection to premises. ActewAGL has proposed a few relatively minor changes to the services policy, each of which are consistent with the requirements of the Gas Code.

2.2 Draft decision

The Commission:

- accepts ActewAGL's proposal to include interconnection of embedded network service as a non-reference service, on the terms and conditions set out by ActewAGL (s. 3.6.1);

- accepts ActewAGL's proposal that the partial use of network service in the 2001 Access Arrangement be removed as a separate service, and covered instead as a negotiated service (s. 3.6.1);

- considers it reasonable, based on the information available to it at this stage, for ancillary services to cease being treated as a reference service (s. 3.6.1);

- proposes to accept ActewAGL's proposed restrictions on the provision of non-tariff reference services to new delivery points, but welcomes further comments (s. 3.6.1);

- proposes to accept that the meter data service may be withdrawn as a reference service if the service becomes contestable, subject to the addition of a more detailed description of when it becomes contestable (s. 3.6.1);

- proposes, in relation to requests for service, to require that ActewAGL provide an estimate to prospective users of the cost of processing the request (s. 3.6.2). The Commission notes that ActewAGL has already indicated that it considers this to be reasonable.

- proposes, in relation to service standards, to require ActewAGL to achieve no worse than 'current' service standards, as reported in the Commission's compliance and performance reports for 2002/03 and, when available, 2003/04 (s. 3.6.3).

2.3 Response

2.3.1 Ancillary services

In the revised Access Arrangement submitted in December 2003 ActewAGL made no change to the ancillary services clauses from the 2001 Access Arrangement. Ancillary services are not reference services in the 2001 Access Arrangement.

In its issues paper the Commission raised the question of whether ancillary services should be reference services. ActewAGL responded that its decision not to include ancillary services as reference services is consistent with the Gas Code, which requires services to be included if they are likely to be sought by a significant part of the market. Ancillary services have in the past been requested by a small proportion of the market. In a market of around 96 000 customers, only 159 disconnections and 566 special meter reads were completed in 2003. There are no strong reasons to suggest that the requests are likely to increase substantially in the future.

2.3.2 Restrictions on services to new delivery points

The Commission seeks further comments on the proposed additional restrictions on services to new delivery points.

The additional condition would only apply to non-tariff delivery points with poor and disproportionate hourly utilisation. The new condition (that the MDQ be at least 10 times MHQ) is designed to encourage efficient supply and use of services through the following mechanisms:

- Charges for non-tariff services are based on MDQ (maximum daily quantity) to encourage efficient daily utilisation of network capacity and to allocate network charges according to the amount of capacity utilised. In terms of network design and capacity utilisation, maximum hourly quantity (MHQ) is the key parameter, however there is no direct incentive in the current Access Arrangement to encourage efficient hourly utilisation.

- Basing charges on hourly metered quantities would result in increased costs due to the changes required to metering and billing systems as well as an increase in volume of data to be collected, stored and validated. To avoid these increased costs, a limiting ratio between MDQ (on which charges are based) and MHQ is proposed so that reference services (and charges) continue to be available for new services with reasonable hourly utilisation which meet other existing requirements.

- Requests for services with an unreasonable relationship between hourly demand and MDQ would be addressed through requests for a negotiated service, at which time the individual requirements of the user can be explored in the context of technical/operational demand management solutions or in the context of negotiated charges which are more reflective of network utilisation.

ActewAGL considers the proposed new condition to be reasonable as it:

a) encourages efficient network utilisation through promoting demand management measures and a cost of service approach;

b) is limited in its application to requests where the cost of providing the service is not reasonably reflected by an MDQ based charge; and

c) minimises the costs of implementing an incentive on hourly demand.

The proposed restriction meets the requirements of the Gas Code. Section 2.24 of the Code refers to the need to take account of the requirements for economically efficient operation of the pipeline and operational and technical requirements for the safe and reliable operation of the pipeline.

2.3.3 Meter data services as a reference service

Clause 2.7(d) of the proposed Access Arrangement states:

"The availability of the Reference Services is as follows:

> (d) Meter Data Service - to any Delivery Point for which a User has a Reference Service. ActewAGL may cease to offer this Service as a Reference Service if, and to the extent that, Meter Data Services become contestable."

The Commission proposes that the second sentence of this clause be replaced with a more detailed provision, as set out in the draft decision.

The Commission's proposal is acceptable to ActewAGL, however we submit that some minor changes are required to the wording proposed by the Commission for consistency with the defined terms and concepts in the Access Arrangement.

There is also the possibility, if and when contestability in meter data services is introduced, that contestability could be introduced to different sections of the market at different times and to different degrees (for example, contestability introduced for large customers on a different time frame to that of small customers).

Our suggested changes are as follows:

"The Meter Data Service , or relevant elements of that service, will cease to be offered as a Reference Service, and at ActewAGL's discretion as a Service, on the date of the commencement of any Gas Law (or the lawful adoption of any requirement by any person or group of people appointed by Government or industry to implement retail contestability in the gas industry in the Australian Capital Territory or New South Wales) where that Gas Law or requirement permits the provision of gas meter reading or on-site data and communication equipment in the ACT, Queanbeyan and Yarrowlumla by a person other than ActewAGL.

If such a Gas Law or requirement is introduced in either the Australian Capital Territory or New South Wales, but not in both jurisdictions, then this clause will apply to the Meter Data Service only in so far as it relates to the area affected by the Gas Law or requirement."

2.3.4 Service standards

The Commission proposes to require ActewAGL to achieve no worse than "current" service standards, as reported in the Commission's compliance and performance reports for 2002-03 and, when available, 2003-04. The Commission also states that it expects ActewAGL to achieve similar performance in respect to the other indicators of service standards not directly regulated by the Commission.

ActewAGL has a number of serious concerns with the proposed requirement and therefore rejects the proposal.

Provisions such as these should not be included in an Access Arrangement, which is intended to set out the terms and conditions on which gas suppliers may *gain access* to the gas distribution network.

The utilities licence and the various codes made by the Commission under the Utilities Act 2000 already provide a comprehensive regulatory regime for utility services in the ACT. Those standards are monitored by the Commission and, where applicable, enforced under the licence and the Utilities Act. There is no need to add an additional layer of regulatory complexity on top of the existing scheme.

The Commission offers a vague explanation of how the scheme would work, noting simply that it would 'have regard to the whole suite of indicators when reviewing ActewAGL's service standards' (s.3.6.3). It also notes that a single indicator falling 'slightly below' the previous year's standards would not be regarded as a failure. This is far from a satisfactory basis for a scheme. ActewAGL would face considerable uncertainty about likely impacts of the requirements.

Establishing a scheme to ensure that service standards do not drop below existing levels would involve some complex issues such as how to define and measure appropriate service standards at the start of the scheme and each subsequent review period, how to structure penalties and rewards and how to deal with the impact of external events such as bushfires and third party damage to the network.

3 Terms and conditions

3.1 Introduction

ActewAGL has proposed several changes, mostly minor amendments, to the general terms and conditions in the Access Arrangement. These are primarily designed to set out more clearly the rights and obligations of ActewAGL and users. Amendments are also proposed for the gas balancing arrangements, to take account of changing circumstances in the market, and curtailment of supply and gas quality specifications.

3.2 Draft decision

The Commission proposes to approve ActewAGL's general and specific terms and conditions (s. 4.6), but calls for the views of users on whether the proposals are reasonable.

The Commission also considers the proposed curtailment of supply policy to be reasonable, but it requires ActewAGL to amend its proposal so that a user's liability to ActewAGL under conditions of load shedding shall relate only to the direct loss the user has caused to ActewAGL (s. 4.6).

The Commission proposes to accept ActewAGL's arrangements for gas balancing and establishment of receipt points. For the proposed revisions to the gas quality specifications the Commission requires that any changes to gas quality specifications arising from the review of the Gas Supply (Network Safety Management) Regulation 2002 being undertaken by the New South Wales Department of Energy, Utilities and Sustainability be reflected in the Access Arrangement.

3.3 Response

3.3.1 General and specific terms and conditions

As outlined in its December 2003 submission (ActewAGL 2003), ActewAGL believes that all its proposed revisions to the general and specific terms and conditions are consistent with the requirements of the Gas Code. ActewAGL notes that the Commission has sought further comments from users. ActewAGL requests the opportunity to respond to any additional issues raised in response to the Commission's request.

3.3.2 Load shedding

The proposed Access Arrangement states:

> "1.16 ActewAGL is not liable for any Loss which the User suffers or incurs or is liable for arising from load shedding.
>
> 1.17 The User is liable for and indemnifies ActewAGL against any Loss ActewAGL suffers or incurs or is liable for arising out of ActewAGL's actions to implement load shedding."

In its draft decision, the Commission stated that it would require ActewAGL to amend its proposed Access Arrangement so that:

> "a User's liability to ActewAGL under conditions of load shedding shall relate only to direct loss that the User has caused to ActewAGL". (our emphasis)

ActewAGL does not seek to recover from gas suppliers any consequential loss ActewAGL might suffer as a result of load shedding (for example, ActewAGL's loss of profits due to reduced gas consumption in the period of the load shedding).

However, it is possible that curtailment of supply under Load Shedding could result in an end customer (or User) incurring a loss if, for example, they are not adequately prepared to manage an interruption to their gas supply. Attempts by the customer to recover such a loss represents a potential exposure which ActewAGL Distribution has no capacity to measure or to manage except through its service agreements with Users.

We propose that the indemnity in clause 1.17 be amended so that it only applies to liability for:

(a) third party claims made against ActewAGL as a result of load shedding; and

(b) loss ActewAGL incurs as a result of a User's failure to take required action under the load shedding provisions.

In other words, the indemnity will only apply to direct loss, but it will extend beyond loss caused by the User. ActewAGL seeks this coverage because, as a distributor, it does not have a direct relationship with the end users of gas, and accordingly has:

(a) no knowledge of an end user's circumstances or the risks involved for them in their business;

(b) no control over the way an end user uses gas, or the precautions it should take if it requires uninterrupted supply; or

(c) no ability to limit its liability in a way that reasonably apportions liability between it and an end user.

The User, by contrast, does have this knowledge and control from its relationship with end users, and can include appropriate provisions in its contracts with them. It is therefore appropriate for the User to indemnify ActewAGL for the risks of third party claims arising out of load shedding, in the way described above.

Further, ActewAGL's proposed approach to liability is consistent with industry practice in other states.

4 Total revenue

4.1 Introduction

In accordance with the Gas Code, ActewAGL's total revenue requirement is calculated using the total cost of services approach. The cost of services is the total cost of providing all services, which is calculated as the sum of:

- the return on the capital base;
- depreciation of the capital base including redundant capital;
- the return on working capital; and,
- operating, maintenance and other non-capital costs.

4.2 Draft decision

The Commission considers that ActewAGL's proposed methodology for calculating total revenue meets the requirements of sections 8.4, 8.5 and 8.5A of the Code, subject to the Commission's preliminary decision in the draft decision to disallow ActewAGL's inclusion in its cost of service components of an amount representing a return on working capital (s. 6.6).

4.3 Response

4.3.1 Working capital

ActewAGL believes that reference tariffs should reflect a return on working capital. Working capital is the capital required to provide for timing differences between cash inflows (revenues) and cash outflows (expenses) over the operating cycle of the entity and is universally accepted as a necessary and efficient cost incurred by businesses.

The justification for a return on working capital is no different to the requirement for a return on capital assets. In both cases, investors commit funds at a point in time, have their funds returned at some time in the future, and in the meantime require a return to compensate for the opportunity cost of the capital employed. The only difference between the treatment of working capital and capital costs is the length of time during which the funds are tied up within the regulated entity—for working capital, funds may be tied up for a matter of weeks, for infrastructure capital, funds may be tied up for decades.

The inclusion of working capital in the revenue requirement recognises the capital committed to receivables and other normal business activities at any one point in time. The value of this committed capital should earn the same regulated return as capital invested in the system assets, as it is an intrinsic aspect of running a business, regulated or otherwise. ActewAGL therefore submits that the Commission should include an allowance for a return on working capital in calculating the revenue

requirement, in order to align with commercial practice and ensure financial capital maintenance.

ActewAGL's proposed working capital allowance is calculated using the same payment cycle approach that was approved by the Commission for the 2001 Access Arrangement. IPART also includes an allowance for working capital in AGLGN's Access Arrangement, and in the regulated tariffs for electricity distribution service providers in New South Wales.

5 Non-capital costs

5.1 Introduction

The Commission's draft decision on forecast non-capital costs is the outcome of an extensive process of review and consultation between the ActewAGL, ECG and the Commission. ActewAGL acknowledges that the Commission has accepted some aspects of its proposal. However, the allowed non-capital costs in the draft decision are still significantly below the levels proposed by ActewAGL and endorsed as efficient and reasonable by consultants Parsons Brinckerhoff.

5.2 Draft decision

The Commission's forecasts of non-capital costs are shown in Table 5.1 below. Over the 5 ½ year period[4] of the forthcoming Access Arrangement the allowed costs are $5.5m below ActewAGL's proposals. For ease of analysis, discussion is based on 6 years, including 2004/05 in full.

Table 5.1 ActewAGL and Commission forecasts of ActewAGL's non-capital costs, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010	Total
			$ million, real 2004–05				
ActewAGL	13.5	13.6	13.8	13.9	13.9	13.9	82.5
Commission	12.2	12.4	12.6	12.8	13.1	13.3	76.3
Difference	–1.4	–1.2	–1.2	–1.0	–0.8	-0.6	-6.2

The Commission has accepted ActewAGL's forecast corporate overheads, non-system asset charges, other direct (controllable) costs, government levies, contestability costs and other (uncontrollable) costs.

The Commission has not accepted ActewAGL's proposals for asset management and asset services costs (operating and maintenance costs), marketing costs and unaccounted-for-gas costs.

The differences between ActewAGL's and the Commission's asset management and services cost forecasts are shown in Table 5.2.

[4] The 5 ½ year period begins 1 January 2006, thus only half of 2005 is included to result in a total difference of $5.5m.

Table 5.2 ActewAGL and Commission forecasts of ActewAGL's asset management and asset services costs, 2005-2010

Year ending 30 June	2005	2006	2007	2008	2009	2010	Total
			$ million, real 2004–05				
ActewAGL							
Asset services	4.46	4.53	4.75	4.80	4.84	4.87	28.25
Asset management	3.10	3.07	3.02	2.97	2.89	2.83	17.88
Commission	6.68	6.84	7.07	7.30	7.52	7.72	43.13
Difference	–0.88	–0.76	–0.70	–0.47	–0.21	0.02	–3.00

The differences between ActewAGL's and the Commission's marketing cost forecasts are shown in Table 5.3.

Table 5.3 ActewAGL and Commission forecasts of marketing costs, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010	Total
			$ million, real 2004–05				
ActewAGL	1.84	1.87	1.89	1.90	1.93	1.95	11.38
Commission	1.46	1.46	1.46	1.46	1.46	1.46	8.76
Difference	-0.38	–0.41	–0.43	–0.44	–0.47	-0.49	-2.26

The differences between ActewAGL's and the Commission's unaccounted-for gas forecasts are shown in Table 5.4.

Table 5.4 ActewAGL and Commission forecasts of unaccounted for gas costs, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010	Total
			$ million, real 2004–05				
ActewAGL	0.26	0.26	0.28	0.29	0.29	0.31	1.69
Commission	0.17	0.17	0.19	0.19	0.19	0.21	1.12
Difference	–0.09	–0.09	–0.09	–0.10	–0.10	0.10	-0.57

5.3 Response

5.3.1 Asset management and asset services costs

ActewAGL strongly disagrees with the Commission's draft decision to cut forecast asset management and asset services costs by $3.0m (2004/05$) over the Access Arrangement period, and believes that the Commission has failed to indicate, as required by the Gas Code, how the forecasts are unreasonable.

ActewAGL's proposed costs are based on the efficient (least cost) delivery of services. Analysis by consultants Parsons Brinckerhoff (PB) confirms that ActewAGL is performing efficiently, with costs comparing favourably with industry benchmarks.

Based on an analysis of 2002/03 data, PB concluded that ActewAGL's controllable costs of $108 per customer were highly competitive, relative to other gas distribution businesses. PB explained further that 'simple industry comparisons suggest that for ActewAGL customer density, a figure of $147 could be justifiable'(PB 2004, p. vi, quoted in ActewAGL 2004a).

Given that ActewAGL is already operating on efficient costs, the Commission's required cuts could only be delivered by reductions in service standards. For example, the current high standards for emergency responses in the ACT and Queanbeyan cannot be sustained if funding for the necessary equipment and personnel is cut. Further background on service standards and possible impacts of funding cuts is provided in Attachment 2.

ActewAGL seeks to maintain its current high service standards. Results from the willingness-to-pay study indicate that customers are willing to pay for current standards. Under the Commission's draft decision ActewAGL will not be able to maximise the community's value from the gas network.

The Commission's approach to determining the allowed asset management and asset services costs (or operating and maintenance costs) is set out in section 7.5.2 of the draft decision. The Commission first determined its 'efficient' level of total controllable non-capital costs (costs per customer multiplied by the number of customers) for 2003/04. The Commission then subtracted the efficient levels of overheads, asset charges, marketing and other costs from the calculated total controllable non-capital costs, then took the residual as the efficient level of operating and maintenance costs.

The Commission's estimate for the 2003/04 efficient operating and maintenance costs is then rolled forward to 2010, at the rate suggested by consultants ECG.

ActewAGL believes that the Commission has made a material error in calculating its 'efficient' costs. As a result, its allowed asset management and asset services costs are too low.

The Commission takes $108 per customer cost as the efficient cost multiplied by customer numbers to get the base for the forecasts. The Commission says that this is appropriate because PB found that the $108 was prudent. (It should be noted however that PB went on to say that the appropriate base was more than $108 – the $108 was in fact well below the costs that could be justified).

The mistake is that the Commission takes the $108 as the total controllable cost per customer in 2004/05 real dollars, but it is in fact in 2002/03 dollars[5]. It must therefore be inflated. The corrected calculation of the base amount for asset services and asset management for 2003/04 (in 2004/05 dollars consistent with non-capital cost forecasts) is $113.47, as shown below in Table 5.5.

[5] PB's calculation of $108 is based on 2002/03 nominal controllable costs divided by 2002/03 customers.

Table 5.5 – Calculation of 2003/04 base year O&M – error corrected

2002/03 controllable cost per customer in 2002/03 dollars		108.23
2002/03 controllable cost per customer in 2004/05 dollars[1]		113.71
Total 2003/04 customer numbers		96,112
		2003/04 base year (2004/05 $m)
Total controllable costs for base year 2003/04 (cost per customer * customers)		10.93
Less:		
Overheads	1.69	
Asset charge	0.48	
Marketing	1.46	
Other costs	0.24	
Sum		(3.87)
O&M calculated		**7.06**

1. Inflation is 2.5% per annum in 2003/04 and 2004/05 - $108.23 * 1.025 * 1.025 = $113.71 per customer in 2004/05 dollars.

When the $108 is correctly inflated from 2002/03 dollars to 2004/05 dollars, using the Commission's model for calculating the asset management and asset services costs results in the forecast shown in Table 5.6 below.

Table 5.6: Forecast asset management and asset services costs – error corrected

Year ending 30 June	2004	2005	2006	2007	2008	2009	2010
			$ million, real 2004–05				
Corrected	7.06	7.21	7.39	7.64	7.89	8.12	8.35

Efficiencies remain evident in this approach as asset services and asset management cost per customer reduces from $73.45 in 2004 to an average over the six years from 2005 to 2010 of $71.45 (in real 2004/05 dollars).

ActewAGL maintains that its approach to determining efficient costs is appropriate. However, it is willing to accept the Commission's approach, *provided* that the mistake is corrected and the costs as shown in Table 5.6 above are allowed.

5.3.2 Unaccounted-for gas

ActewAGL's forecast cost for unaccounted-for gas (UAG) is based on the assumption that the UAG level will be 1.5% of throughput. The 1.5% is reasonable, based on values observed over the past 4 years. Actual UAG values have been: 1.1% in 2000, 1.6% in 2001, 0.9% in 2002 and 0.8% in 2003. It should also be noted that the accuracy of metering equipment is within the range of +/- 2% and therefore any UAG figure lower than 2% is impractical. ActewAGL has argued that the tender price should be used to determine the cost of the UAG.

The Commission's forecasts assume a UAG level of 1.0% of throughput and a cost of $2.50 per GJ (in the absence of formal advice on the results of the tendering process).

The tender process has now been completed and ActewAGL can now confirm the tender price for 2004/05.

ActewAGL is willing to accept the Commission's draft decision that the UAG level should be 1.0%. However, the total cost of the UAG must be increased to take account of the tender price, as shown in Table 5.7.

Table 5.7 ActewAGL's revised UAG forecasts

Year ending 30 June	2005	2006	2007	2008	2009	2010
UAG cost ($m 2004/05)	0.39	0.40	0.40	0.40	0.41	0.41

5.3.3 Non-capital expenditure summary

The Commission's non-capital expenditure forecasts updated for the change to asset services and asset management costs and revised unit price for unaccounted-for gas, as described above, are shown in Table 5.8. These forecasts represent a position that would allow ActewAGL to continue to deliver services that it currently provides.

Table 5.8 Commission's forecast non-capital expenditure updated for ActewAGL responses

Year ending 30 June	2005	2006	2007	2008	2009	2010
			Real 2004/05 $ millions			
Controllable costs						
Asset services & asset management	7.21	7.39	7.64	7.89	8.12	8.35
Corporate overheads	1.92	1.92	1.92	1.92	1.92	1.92
Non-system asset charge	0.48	0.48	0.48	0.48	0.48	0.48
Marketing	1.46	1.46	1.46	1.46	1.46	1.46
Other direct costs	0.24	0.24	0.24	0.24	0.24	0.24
Total controllable costs	**11.31**	**11.49**	**11.74**	**11.99**	**12.22**	**12.45**
Other allowable costs						
Government levies	0.55	0.55	0.55	0.55	0.55	0.55
Contestability costs	0.45	0.46	0.46	0.46	0.46	0.45
Unaccounted for gas	0.39	0.40	0.40	0.40	0.41	0.41
Other	0.24	0.24	0.24	0.24	0.25	0.25
Total other	**1.63**	**1.65**	**1.65**	**1.65**	**1.67**	**1.66**
Total non capital costs	**12.94**	**13.15**	**13.38**	**13.64**	**13.90**	**14.11**

6 Capital expenditure and the capital base

6.1 Introduction

The Commission's capital cost proposals are the outcome of an extensive process of consultation and review. ActewAGL acknowledges that in several areas the Commission and its consultants have accepted ActewAGL's proposals or, in the case of unit rates for market expansion capital expenditure, adopted a position between the consultants' draft recommendations and ActewAGL's proposals. However, the overall allowed capital expenditure is still below ActewAGL's proposals.

6.2 Draft decision

The Commission's draft decision is to apply a 2.8% reduction to ActewAGL's forward-looking capital expenditure program (s. 8.6.2).

The Commission did not accept ActewAGL's proposed market expansion and stay-in-business components of the capital expenditure forecasts. It has, however, accepted the proposed capacity development and non-system assets expenditure.

For market expansion capital expenditure, the Commission's preliminary view is that the unit cost for medium pressure mains should be reduced from $663 to $567 and the unit cost for services and meters should be reduced to $659 and $180 respectively. The unit rate for water meter expenditure is to be reduced to $282.

Stay-in-business capital expenditure is to be reduced by 20%.

6.3 Response

6.3.1 Stay-in-business capital expenditure

ActewAGL's proposal for stay-in-business capital expenditure is based on detailed modelling and analysis of the condition of assets and statutory service requirements. The planning and approval processes have been examined by the Commission's own consultants and found to be sound. However, the Commission has still decided to require a substantial cut in stay-in-business capital expenditure, without assessing the likely implications.

Consultants Parsons Brinkerhoff (PB) concluded that ActewAGL's proposed stay-in-business expenditure was *below* the industry accepted level required to ensure that the network is reliable and secure over the long term.

> ActewAGL has advised PB that the Stay-in-Business projects will be of the order of $8.8m over the six year period. Meter renewal and upgrade is the dominant item. The average expenditure represents approximately 0.6% per year of the total replacement cost of the ActewAGL gas network infrastructure (approximately $250 million). Considering that the weighted economic life of the network elements is of the order of 50 years, any long term replacement level below 2% will lead to gradual degradation of quality of infrastructure. This may be acceptable in

> the short term as the network is relatively new and the majority of assets have considerable remaining life. However, should this lower level be maintained in the longer term there is likely to be an overall increase in the risk factors, and reduced safety and security of supply.
>
> PB is of the opinion that such an approach is not sustainable and may induce a disproportionately large impact on future capital requirements for the gas networks in order to provide secure and reliable gas infrastructure. A progressive move over a number of Access Arrangement periods towards a sustainable long term annual replacement expenditure level of 2% of the total asset value is recommended.

ActewAGL believes that its proposed expenditure is reasonable, and consistent with the Gas Code requirement that the 'operational and technical requirements for the safe and reliable operation of the covered pipeline' be taken into account. We therefore urge the Commission to allow the full amount proposed for stay-in-business capital expenditure.

6.3.2 Market expansion capital expenditure

ActewAGL acknowledges that the unit rates for market expansion capital expenditure were arrived at following extensive consultation between ActewAGL and consultants ECG. ActewAGL believes that the revised average cost per customer for mains of $567 will be difficult to achieve. If such a saving is not achieved during the forthcoming Access Arrangement period, ActewAGL should not be penalised in the next review (2010 to 2014) and should be allowed to roll forward the actual costs into the regulatory asset base.

7 Demand forecasts

7.1 Introduction

The Commission rejected ActewAGL's forecast demand volumes and instead adopted the volumes per customer recommended by their consultants, MMA. ActewAGL extensively discussed the demand forecasts with MMA. While MMA did not agree with ActewAGL's forecasts, MMA was not able to present solid arguments for why the forecasts are unreasonable. MMA has not provided ActewAGL with logic and reason as to their recommendations, predominantly with respect to the effect on new and existing customers from the implementation of BASIX, Think Water Act Water (TWAW) and savings from use of hot water efficient appliances.

ActewAGL believes that it has established that its forecasts meet the Gas Code requirement that they are 'the best estimates arrived at on a reasonable basis'. This is supported by a review by consultants ACIL Tasman which concluded that:

- the methodology used to develop the projections is appropriate and sound;
- the projections of gas and network demand are reasonable; and
- together, they meet the Code criterion. (ACIL Tasman 2004).

ActewAGL's arguments about the impacts of BASIX and TWAW are also supported by several independent reports, and should therefore be considered reasonable.

Each issue raised by the Commission is dealt with in the following sections. ActewAGL's main concern is the forecast effect of BASIX and Think Water Act Water (TWAW) and savings from use of hot water efficient appliances.

7.2 Draft decision

In the draft decision the Commission:

- accepts ActewAGL's revised forecast for residential tariff market customer numbers, but proposes to use an updated 2004 base number in the final decision, together with the agreed ActewAGL growth rate (s. 9.6.1);
- accepts ActewAGL's business customer number forecasts (s. 9.6.1);
- proposes to adopt the interim contract market forecasts, subject to ActewAGL completing discussions with major customers and reporting results prior to the final decision (s. 9.6.1); and,
- rejects ActewAGL's proposed average volume forecasts for the residential market (s. 9.6.2).

7.3 Response

7.3.1 BASIX, Think Water Act Water and hot water appliances

ActewAGL has undertaken extensive analysis, presented to MMA in a separate report, utilising three different studies to produce and validate its forecast.

ActewAGL found that:

- MMA did not present solid arguments for disagreeing with the body of evidence in ActewAGL's report to substantiate its position regarding the reduction in gas usage from AAA fittings.

- MMA have the opinion that we have over estimated the introduction of AAA fittings. Their analysis of the ActewAGL position does not correlate to what we have submitted.

- There is reason to expect the take up rate for AAA fittings in new homes before 2007. MMA have not taken into account the intent of the ACT Government with the TWAW Strategy in regards to the stated principles of equitability[6], best practice[7] and least cost[8]. The least cost solution is to adopt the best practice of other states and mandate the use of AAA fittings before granting a Development Application. In fact, ActewAGL's position is already being validated. ACTPLA has implemented the Residential Sustainability Report (RSR) which determines the sustainability of a new development and renovations including AAA showerheads[9].

- MMA has not included the impact of TWAW across the whole market in their volume forecast, particularly existing dwellings, as indicated in ActewAGL's report. This grossly understates the impact of TWAW.

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[6] **Principle of Equitability**: "No matter what the future holds, the ACT Government is committed to ensuring that all mains water users (government, commercial, institutional and residential) contribute equitably to the targets in Think water, act water " [TWAW Volume 1 Page 22].

[7] **Principle of Best Practice**: "The ACT Government is committed to the sustainable use and management of ACT water resources, and will implement best practice water resource management strategies." [TWAW Volume 1 Page 9]. "The Government will implement Water Efficiency programs to improve the efficiency of water use in the house and garden. The programs will take account of those offered in New South Wales" [TWAW Volume 1 Page 29]. The programs implemented in NSW included AAA showerheads and tap aerators.

[8] **Principle of Least Cost**: The ACT government is committed to provide a least cost path to achieving the target. The underlying methodology for Think Water is to provide a least cost path to achieving the target [TWAW Volume 2, Section 4.2.2, Page 15].

[9] Refer http://www.actpla.act.gov.au/design-guide/reports/rsr.htm and click on the RSR spreadsheet and refer to Section 11.2.1 in each spreadsheet).

As a result of these factors, the MMA demand forecast volumes understate the impact of TWAW and BASIX. The MMA demand forecast volumes do not represent the best estimate arrived at on a reasonable basis.

ActewAGL has prepared an extensive report on the impact of TWAW and BASIX. ActewAGL does not know whether the Commission has reviewed this report, but urges the Commission to consider it in support of ActewAGL's forecast volumes.

ActewAGL's approach to TWAW is also being validated by the actions of the ACT government. A recently announced pilot program is offering "A triple-A showerhead will be installed as well as flow-regulators on both the kitchen and bathroom basin taps. In addition, two washers will be supplied if there are any leaking taps". (Refer to Attachment 3 for the statement from the ACT Government's Chief Minister). This scheme is fully funded by the ACT Government.

It should also be noted that the ActewAGL demand forecast is conservative because it:

- does not include the impact on the ACT business markets of TWAW, which would reduce gas consumption.
- does not include the impact on Queanbeyan renovations under BASIX.
- does not include the impact on Queanbeyan dwellings due recent moves by the NSW government to review measures to enforce AAA fittings in existing dwellings.

Hence ActewAGL's demand forecast is conservative as it does not take into account the full extent expected from the impact of TWAW and BASIX.

Given the facts above, ActewAGL considers its demand forecast volumes are the best estimate arrived at on a reasonable basis.

7.3.2 Growth rate for volumes for existing customers

While ActewAGL maintains its position on the growth rate applied for existing customers it does acknowledge that the growth value identified by MMA, and as used by the Commission is not significantly different to that used in its own forecasts.

7.3.3 Volumes for new customers

ActewAGL maintains that there is an identifiable trend downwards for the average volumes for new customers, and given that trend ActewAGL has taken a conservative approach to forecasting new connection volumes by using the final year of actual data to project volumes into the future without continuing the downwards trend. ActewAGL does however acknowledge that, should the average of the last few years be applied as recommended by MMA, it produces an average result not significantly different to that used by ActewAGL.

7.3.4 Business tariff market

The Commission has determined that the volume growth projected by MMA is to be adopted. ActewAGL agree that the longer term series adjusted for the volume related to those customers identified having transferred to Contract status is the most appropriate method to use. ActewAGL do advise that the growth rate should be 0.9%, and not the rounded up 1% as disclosed by MMA in their final report of 28 June 2004.

7.3.5 Contract market forecasts

ActewAGL has set out its views on MMA's recommendations previously and maintain that the forecast included in the proposed Access Arrangement are reasonable. A survey of major customers has been completed and will be provided to the Commission in a separate confidential submission.

8 Cost of Capital

8.1 Introduction

ActewAGL is concerned that the Commission's draft decision on the cost of capital underestimates the risks associated with investment in gas distribution assets in the ACT. The Commission's draft decision adopts a cost of capital that is at the bottom of regulatory precedent in Australia and is, in ActewAGL's opinion, at the low end of any reasonable range. The Commission's draft decision to reduce the WACC to 6.82% (real pre tax) would, if reflected in the final Access Arrangement, be lower than any other final decision for a gas Access Arrangement[10] and is a full 72 basis points lower than the average of the most recent ACCC, ESC, IPART and QCA decisions. The Commission's decision is also lower than all but one[11] of recent Australian electricity distribution/transmission decisions. Further, the Commission's draft decision is harsh by international regulatory standards.[12]

ActewAGL believes that the Commission's draft decision fails to give sufficient weight to the inherent uncertainty surrounding estimates of the cost of capital for regulated businesses. The Productivity Commission has forcefully argued that current Australian allowed rates of return are set below prudent levels when account is taken of this inherent uncertainty and the asymmetric costs of under/over investment in essential infrastructure. The Productivity Commission's caution is all the more relevant in the current context, given that the draft decision comes in at the bottom of Australian regulatory precedent.

In this chapter ActewAGL responds to analysis in the draft decision that it believes does not appropriately take into account information and analysis already supplied by ActewAGL. However, in a number of areas the Commission was simply not convinced by the views/information supplied previously. In those areas ActewAGL seeks to provide additional information to support its claims. The structure of this chapter is as follows.

- Section 8.2 examines the inherent uncertainty associated with all estimates of the cost of capital – including estimates based on the capital asset pricing model (CAPM) used by the Commission. This section also examines the reasons why it is appropriate for the Commission to adopt a value that minimises the probability that the cost of capital is set too low;

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10 The ACCC's MSP decision involved a lower WACC but this has been rejected on appeal to the Australian Competition Tribunal which has required the ACCC to increase the credit margin allowed in its decision.

11 The Tasmanian Energy Regulator set the cost of capital for the State Government owned electricity distribution network at 6.61% in 2003.

12 NECG, *International Comparison of WACC Decisions*, Submission to the Productivity Commission Review of the Gas Access Regime, September 2003.

- Section 8.3 provides new evidence on the true risks facing equity investors in ActewAGL which supports a higher compensation for systemic (beta) risk;

- Section 8.4 provides new evidence supporting a higher compensation for the cost of debt (excluding transaction costs);

- Section 8.5 provides new evidence on the appropriate valuation of imputation credits (value of 'gamma') to be used in the CAPM. This section is supported by an expert report from NERA on the relevance of the debate over who is the 'marginal investor';

- Section 8.6 provides new evidence suggesting that ActewAGL's original request for compensation for debt and equity raising costs was inadequate. This section requests that the Commission revisit this issue in its final decision;

- Section 8.7 summarises our foregoing analysis.

8.2 Uncertainty and Regulatory Error

ActewAGL stresses that there is considerable uncertainty concerning the accuracy of both the framework used to estimate the WACC and the individual parameter values used within that framework. Given this uncertainty and the asymmetric costs associated with setting the WACC too low ActewAGL submits that the Commission should exercise caution and adopt a value for the WACC that is at the top end of the range of reasonable values. ActewAGL does not believe that the Commission has done this.

8.2.1 The CAPM is not revealed truth

ActewAGL supports the Commission's use of the capital asset pricing model (CAPM) in estimating the cost of capital for regulated businesses. The CAPM is an internally consistent framework and, in ActewAGL's opinion, is as good as any model available for estimating a business's cost of capital. However, the CAPM is only one theoretical model and there is considerable theoretical[13] and conceptual uncertainty as to how well it explains real world behaviour. Ross, Westerfield and Jaffe (1999) note in their graduate text that :

> "..one must never forget that, as with any other model, the CAPM is not revealed truth but, rather, a construct to be empirically tested. The first empirical tests of the CAPM occurred over 20 years ago and were quite supportive. …While a large body of work developed over the following decades, often with varying results, the CAPM was not seriously called into question until recently. Two papers by Fama

[13] That is not to say that we can suggest a better conceptual framework to work within when estimating the required WACC – no such agreed framework exists in the literature on finance theory. However, it should be recognised that the framework that we do have is not perfect for understanding investor behaviour. For example, the CAPM does not recognize that the return required from an asset will depend in part on the covariance between that asset's return and future investment opportunities in the economy. The CAPM is a one-period model in which the only risk is that of covariance between the asset's return and the contemporaneous return on other assets—there are no future investment opportunities.

> and French (…) present evidence inconsistent with the model. Their work has received a great deal of attention, both in academic circles and in the popular press, with newspaper articles displaying headlines such as "Beta Is Dead". These papers make two related points. First they conclude that the relationship between average return and beta is weak over the period from 1941 to 1990 and virtually non-existent from 1963 to 1990. "[14]

If estimates of the required WACC are to be derived within a CAPM framework then, when adopting a final cost of capital, it is appropriate to take account of uncertainty surrounding both: the explanatory power of the CAPM; and the value of individual CAPM parameters.

8.2.2 The absolute value of the WACC is important

Given the uncertainty surrounding whether the CAPM really does explain investor behaviour, it is important to question the results of the CAPM when application of it gives historically low values for the cost of capital. The Commission's draft decision provides for a historically low return on assets. This is partly driven by a historically low risk free rate and partly by the Commission's decision to lower its compensation for systemic (beta) risk to below the levels it previously allowed and below the levels adopted by other Australian regulators. (In its draft decision the Commission sets an equity beta of 0.9 while its past practice, and the standard Australian regulatory practice, has been to set an equity beta of 1.0.)

The Commission appears to take the view that both:

- the historical level of compensation for beta risk allowed by other regulators is inappropriately high; ***and***
- it is appropriate for the Commission to 'correct' this at a time of historically low risk free rates.

ActewAGL strongly disagrees with *both* of the above contentions. Section 8.3 explains why we believe that the Commission should, irrespective of the risk free rate, not reduce the compensation for beta risk. However, even if the Commission does not accept the views expressed in Section 8.3, ActewAGL contends that the Commission should not be reducing the compensation for beta risk at a time when the risk free rate is at historically low levels for at least three reasons:

- uncertainty surrounding the accuracy of the CAPM means that historically low estimates of the WACC should be treated with caution;
- the finance literature suggests that the investor's required compensation for systemic risk is inversely related to the risk free rate. Put simply, investors target rates of return and do not adjust these to fully reflect all changes in the risk free rate; and

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[14] Ross, Westerfield and Jaffe (1999), Fifth edition, *Corporate Finance*, McGraw-Hill, pp 269-270.

- there is clear current regulatory precedent for not reflecting historically low levels of the risk free rate fully in low levels of the regulatory WACC.

As already discussed, the uncertainty surrounding the predictive power of the CAPM model suggests the Commission should be cautious when this model is predicting historically low returns.

More importantly, there is a strong body of evidence that suggests that the risk free rate and the market risk premium are interdependent. In particular, when the risk free rate is at historically low levels the market risk premium is likely to be at historically high levels. The intuition behind this is simple and relies on the fact that equity investors target both the *absolute return* and the return *relative to the risk free rate*. The market risk premium is, by definition, equal to the absolute return demanded by investors on a perfectly diversified portfolio less the risk free rate.

$MRP = E(r_e) - r_f$; where

> E(re) = the absolute return equity investors demand before investing in a perfectly diversified portfolio of equity; and
>
> r_f = the risk free rate.

It must be understood that the MRP is an input into the CAPM not an output. The CAPM has little or nothing to tell us about why the MRP is whatever value it is. The MRP is determined 'inside investors' heads' rather than in any sort of mathematical model. Consequently, if we wish to understand the relationship between the MRP and the risk free rate we must 'get inside' investors' heads.

Only if equity investors are purely driven by the return relative to the risk free rate (ie, are indifferent to absolute returns) will the market risk premium in the CAPM be independent of the risk free rate. Under this scenario, if the risk free rate falls by 1% so does the target rate of return and, by definition, the MRP remains unchanged. This is clearly a very strong assumption and is unlikely to hold. On the other hand, if investors only ever target an invariant absolute return from equity then the risk free rate and the MRP will be perfectly inversely related – with a 1% reduction in the risk free rate causing a 1% increase in the market risk premium. This is also a strong assumption and the truth is likely to lay somewhere between these two extremes. That is, in reality investors are likely to demand a return on equity that is a function of absolute returns (influenced by historical levels of absolute returns) and returns relative to the risk free rate.

There is a body of academic research that has examined the empirical relationship between the market risk premium and the risk free rate. Professor Grundy has examined this literature and notes that:

> "A number of studies have documented a significant inverse relation between the short-term risk-free rate and the market risk premium. Other work has found an insignificant relation between long-term rates and the market risk premium. Studies that look at a conditional variant of the relation between interest rates and the market

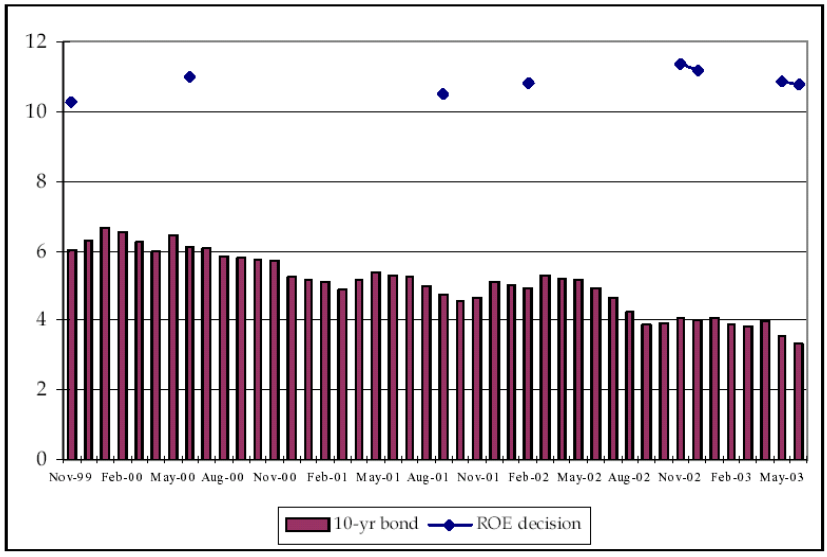
risk premium document that an increase in the variability of market returns is associated with a decrease in interest rates and an increase in the market risk premium. The decrease in interest rates is consistent with an increased demand for safer assets when the market becomes more volatile. The increase in the market risk premium is consistent with an increase in the reward for bearing risk when investing in the market means having to bear more risk. For the purposes of operationalizing the CAPM, the available empirical evidence on the relation between interest rates and the market risk premium is consistent with the use of a higher market risk premium at times when the risk-free rate is historically low."

Given the inverse relationship between the MRP and the risk free rate, as evidenced in the literature and consistent with intuition, regulators should be very cautious in fully reflecting historically low risk free rates in the regulatory WACC.

This is indeed the position adopted by US regulators who have not fully reflected historically low risk free rates in regulatory rates of return. In the US the standard approach to setting the return on equity is to use a discounted cashflow model rather than the CAPM. The risk free rate is irrelevant to the discounted cashflow model, which simply compares projections of earnings to the current market price of equity in order to determine the discount rate that makes these two consistent.

In the US the regulatory return on equity is remarkably invariant to the risk free rate with the recent historically low risk free rates not being fully reflected in the allowed rate of return. This is illustrated by the below graphic taken from page 30 of NECG's report to the Productivity Commission's Gas Access Review "International comparison of WACC decisions".

Figure 1: 10 year bond and return on equity decisions in the energy sector Nov 99– Jun 03



Decisions included are those listed in Table 4. Data on 10-year bond from Federal Reserve Bank.

As can be seen from the above graphic the regulatory return on equity over the last 4 years in the US has been remarkably invariant at between 10% and 11% despite a fall in the 10 year bond rate from above 6.0% to below 4.0%. This reflects a view amongst US regulators that is consistent with the academic literature suggesting the MRP tends to rise as the risk free rate falls. For example, the California Public Utilities Commission states:

> "We consistently consider the current estimate and anomalous behavior of interest rates when making a final decision on authorizing a fair ROE. In PG&E's 1997 cost of capital proceeding we stated "Our consistent practice has been to moderate changes in ROE relative to changes in interest rates in order to increase the stability of ROE over time." That consistent practice has also resulted in the practice of only adjusting the rate of return by one half to two thirds of the change in the benchmark interest rate.[15]

Given the above theory and regulatory precedent ActewAGL considers that the Commission should exercise extreme caution in fully reflecting historically low risk free rates in the return on ActewAGL's gas assets. This is especially true given the Commission's proposal to reduce the equity beta on those assets to a level that is lower than provided by any other regulator on comparable assets. ActewAGL submits that the Commission should either not reduce the equity beta applying to gas assets and/or should increase the MRP to partly offset the reduction in equity returns due to historically low risk free rates.

8.2.3 Asymmetric costs of regulatory error

The existence of substantial uncertainty would be of less concern if the cost of the regulator underestimating the true WACC were symmetric with the cost to society of overestimating the true WACC. However, it is widely recognised that the costs of underestimating the WACC far exceed the costs of overestimating the WACC. As emphasised by the Productivity Commission's review of the National Access Regime, setting the WACC too low provides insufficient incentives to attract long-term infrastructure investment. The Productivity Commission concluded that given information uncertainties, and the potential costs to society of overly aggressive regulatory decisions:

> 'regulators should be circumspect in their attempts to remove monopoly rents perceived to be attach to successful infrastructure projects.' [16]

This was supported by the Government's response to the Productivity Commission's review. The Government agreed to include the following principle in Part IIIA:[17]

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15 CPUC Decision 02-11-027, Application of Pacific Gas and Electric Company for Authority to Establish Its Authorized rates of return on Common Equity for Electric Utility Operations and Gas Distribution for Test Year 2003, Interim Opinion on Returns of Return on Equity for Test Year 2003, November 7, 2002, p.20.

16 PC, *Review of the National Access Regime*, September 2001 p83

17 Government response to Productivity Commission Report on the Review of the National Access Regime, p5.

> 'The Australian Competition and Consumer Commission (ACCC) must have regard to the following principles:
>
> (a) that regulated access prices should:
>
> (i) be set so as to generate expected revenue for a regulated service or services that is **at least sufficient** to meet the efficient costs of providing access to the regulated service or services;' (emphasis added)

The focus on revenues being 'at least sufficient' reflected the Productivity Commission's recommendations that regulators should not attempt to set revenues equal to minimum efficient costs but should include a margin for error in their estimates. That is, when faced with a range, regulators should choose from the top rather than the bottom of that range.

The Commission is proposing a very radical reduction in the WACC relative to its previous allowance of 7.75%. ActewAGL does not believe that the Commission has provided sufficient new information to justify this highly material reduction. This fall is largely driven by a reduction in the proposed equity beta. In this regard the Commission appears out of step with other regulators such as the Victorian ESC who state:

> "The Commission is aware of the long term consequences of its decisions and the appropriateness of adopting a conservative approach where there is substantial uncertainty... Further, in deriving the proxy beta the Commission has placed *considerable weight* on the desirability of continuity between regulatory decisions and the long term consequences of the Commission's decisions for the Victorian gas industry." (Original emphasis.)[18]

The Australian Competition Tribunal in its consideration of the appeal of ACCC's rejection GasNet's Access Arrangement took a position that is consistent with avoiding the costs of setting the WACC too low.

The Tribunal argued that the regulator should, consistent with the Western Australian Supreme Court decision on Epic, take account of the inherent uncertainty of the CAPM parameters.

In its judgement the ACT stated:

> The application of the Reference Tariff Principles involves issues of judgment and degree. Different minds, acting reasonably, can be expected to make different choices within a range of possible choices which nonetheless remain consistent with the Reference Tariff Principles. … 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

[18] Page 356 of the ESC's 2002 gas final decision.

> believes would better achieve the Relevant Regulator's understanding of the statutory objectives of the Law. (Paragraph 29)

The ACT strongly argued that the Code requires the regulator only reject an Access Arrangement when the proposed Access Arrangement can be shown to not comply with the Code – not when the regulator believes an alternative 'better' complies with the Code.

> 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. (Paragraph 42)

ActewAGL understands the ACT's logic to imply that regulators should not reject an Access Arrangement simply because the Access Arrangement assumes a cost of capital that is in excess of the regulators estimate of the cost of capital. The regulator should only reject the Access Arrangement if it believes that the proposed cost of capital is outside a reasonable range. This legal framework is, in ActewAGL's opinion, consistent with the public policy objective of ensuring that the potential costs of underestimating the WACC are avoided.

In the following sections ActewAGL provides evidence to support the view that its chosen CAPM parameters are well within a reasonable range. It is also argued that the Commission's draft parameter values are taken from the low end of any reasonable range. Given the asymmetric cost of regulatory error we argue strongly that the Commission should accept ActewAGL's proposed WACC.

8.3 Compensation for Systemic (Beta) Risk

The Commission's draft decision has proposed to reduce ActewAGL's gas equity beta from 1.0 in its last decision to 0.9. In doing so the Commission is allowing the same compensation for systemic risk as it allowed for ActewAGL's electricity operations. We believe that this is inappropriate for the following four reasons:

- The Commission is in error when it implies conferring an equity beta of 1.0 would imply that ActewAGL's gas operations has the same level of systemic risk as the market average.

- ActewAGL believes the Commission erred in setting an equity beta of 0.9 for electricity (which is the lowest compensation for systemic risk provided by any Australian energy regulator[19]).

[19] With the exception of the QCA May 2001 electricity distribution decision where a manifest mathematical error led to an equity beta of 0.71 being calculated.

- The Commission committed a statistical error when it concluded the NECG data on gas asset betas supported its position on ActewAGL's asset beta.

- Even if an equity beta of 0.9 is considered appropriate for electricity distribution it is not appropriate for gas distribution. We present new evidence on the relative variability of volumes that shows that the systemic risk associated with our gas operations exceeds that associated with our electricity operations.

Each of these issues is explored more thoroughly in the following sections. These sections also draw heavily on advice from Professor Bruce Grundy (Ian Potter Chair of Finance at the Melbourne Business School) and Dr Tom Hird (Associate Director at NERA). The detailed advice is set out in NERA reports provided separately to the Commission.

8.3.1 Gearing and the equity beta

It is a common error to suppose that allowing a regulated business an equity beta of 1.0 implies that the regulator is assuming the businesses operations have the same systemic risk as the average Australian business.

The Commission appears to commit this error when it states on page 158-59 that

> "The equity beta measures the sensitivity between the return of a particular investment and the return from a market portfolio of investments (usually represented by the stock market). An equity beta of greater than 1 indicates that an entity has returns which are likely to be more sensitive to systemic influences than the market average."

This appears to imply that a justification for setting ActewAGL's gas equity beta at 0.9 is that ActewAGL's overall operations are less risky than those of the average Australian entity - and therefore the equity beta should be set below 1.

This statement is simply not true as the equity beta depends on the business's level of leverage (both debt and operational leverage) - with higher leverage levels implying a higher equity beta. Importantly, the assumed regulatory debt gearing level of 60% is far in excess of the average gearing level on the market. It is explained below that, when levered to a comparable 60% gearing ratio the average equity beta on the Australian market would be in excess of 1.5 – suggesting that an equity beta of 1.0 for ActewAGL already provides less than 2/3^{rds} the average compensation for systemic risk.

The average *equity beta* in the former Infrastructure and Utilities group on the Australian Stock Exchange was 1.0.[20] However, the average gearing ratio for businesses in that index is around 40 percent[21] which is much lower than the 60

[20] See ACCC Powerlink and ElectraNet electricity transmission decisions.

[21] In 1998 IPART estimated the average gearing rate for companies in this index to be 37% see IPART, *The Rate of Return for Electricity Distribution Network*s, Discussion Paper, DP-26, November 1998, p. 20.

percent used in regulatory decisions. De-levering an equity beta of 1.0 with a gearing ratio of 0.4[22] results in an asset beta of around 0.60. Re-levering this with a gearing ratio of 60 percent gives an equity beta of 1.5. This is the appropriate figure to use when comparing the average equity beta in the former Infrastructure and Utilities group. Moreover, the underlying riskiness of the assets in the Infrastructure and Utilities group was likely to be itself lower than the average for the Australian market. This suggests that the comparable average equity beta (when adjusted for 60% gearing) for the Australian market would be greater than 1.5.

Moreover, as well as being an increasing function of debt leverage the riskiness of equity is also an increasing function of "operational leverage". Operational leverage depends on the size of a business's fixed expenditures – with the higher fixed costs the higher operational leverage and the greater the systemic risk attaching to that business's operations. The intuition behind this is relatively straightforward. Debt leverage increases the volatility of equity returns because debt holders must always be paid before equity holders. For precisely the same reason high fixed costs increase the volatility of equity returns because fixed costs must be covered before equity holders receive a return.

The very high fixed costs associated with running a gas distribution business (in combination with the much higher assumed debt gearing than the average on the Australian market) should give the Commission even further pause for concern before it concludes that an equity beta of 1.0 is unsustainable. For example, a manufacturing business will generally be able to respond to a reduction in demand by substantially reducing its purchase of inputs (both raw material and labour). In this way its profits will be somewhat protected from variations in demand. ActewAGL has limited ability to reduce costs in the face of a reduction in demand (ie, has a high operational gearing).

For these reasons ActewAGL believes that the Commission would be in error if it relies on the fact that ActewAGL's *assets* are less risky than average as justification for setting an *equity* beta that is less than 1.0. If ActewAGL's assets are less risky than the average this is only justification for setting an equity beta less than 1.5 – given the assumed gearing of 60%.

8.3.2 Regulatory precedent

The Commission adopts an equity beta of 0.9 that is derived by application of the Monkhouse formula given an assumed asset beta of 0.4, a debt beta of 0.06 and a gearing level of 60%. This is identical to the position taken in the Commission's electricity distribution decision. The underlying assumptions for the asset and debt beta are partly justified by reference to regulatory precedent.

More recently NECG has estimated the index ratio at 40% and 38% in 1999-00 and 2000-01 see *Analysis of the weighted average cost of capital for ElectraNet SA*, April 2002.

[22] with a debt beta of zero, a value of gamma equal to 0.5, and a corporate tax rate of 30%.

> "The Commission comes to this view by observing that this decision would be consistent with regulatory precedent…" (page 161.)

In the context of the Commission's electricity distribution decision, ActewAGL argued that the Commission was in error in using regulatory precedent supported adopting an asset beta of 0.4 in combination with an equity beta of 0.06. The Commission has not directly responded to the concerns we expressed at that time and, for this reason, we reiterate these concerns here.

The manner in which Australian regulators calculate the equity beta from the asset and debt betas means that the higher the asset beta the higher the calculated equity beta but the opposite is true of the debt beta (ie, a higher debt beta tends to reduce the calculated equity beta and therefore the WACC). While it is true that some regulators have adopted an asset beta of 0.4 and some regulators have adopted a debt beta of 0.06 or above, *no other regulator has ever combined these two assumptions.* For this reason it is inappropriate for the Commission to argue, as it does on page 159 of the draft decision, that:

> "The Commission's value for the debt beta, 0.06, is within regulatory precedent. In the October 2003 decision on the East Australian Pipeline Limited Access Arrangement the ACCC also selected 0.06 as the appropriate value for the debt beta. Observed values for the debt beta are as high as 0.28 (Queensland Competition Authority, Final determination – Regulation of Electricity Distribution, May 2001)."

While the ACCC may have adopted a value of the debt beta of 0.06 it did so in combination with an assumed asset beta of 0.5 – giving a final equity beta of 1.0. It is the equity beta that affects financial viability and incentives to invest - not the underlying assumptions used to derive that equity beta. Consequently, it is the equity beta that is relevant when examining regulatory precedent. NECG also made the same point on p. 29 of their earlier report. With the exception of the QCA, no other Australian energy regulator has ever given an equity beta as low as the Commission is proposing for ActewAGL. This illustrated in Table 8.1 below.

Table 8.1 Equity betas given by regulator and operation

Regulator	Operations	Year	Equity beta
ORG	Mulitnet, Westar, Stratus	98	1.20
ACCC	Gas	98	1.20
IPART	GSN AA	99	1.03
SA Govt Adviser	ETSA	99	1.02
IPART	Albury	99	1.00
IPART	Elec Det	99	0.96
ACCC	Transgrid	00	1.02
OffGAR	Alinta Mid & South West Systems	00	1.08
ACCC	CW Pipeline	00	1.50
IPART	AGLGN	00	1.00
ESC	Electricity	00	1.00
QCA	Electricity	01	0.71
OffGAR**	Epic DBNGP	01	1.20
ACCC	Epic - M2A	01	1.16
OffGAR	Tubridgi	01	1.33

Regulator	Operations	Year	Equity beta
QCA	Gas	01	0.99
ACCC	PwrLk Qld	01	1.00
SAIPAR	Envestra	01	
ESC	Gas AA's	02	1.00
ACCC	SPI PowerNet	03	1.00
ACCC	GasNet	02	1.00
ACCC	ElectraNet	02	1.00
OffGAR	Epic DBNGP	03	1.20
OTTER	Aurora	03	0.95
ACCC	Transend (Tas)	03	1.00
ACCC	EAPL - M2S	03	1.00
ACCC	Murraylink	03	1.00
ICRC	ActewAGL	04	0.90
ESCOSA**	ETSA	04	1.00
ACCC**	Energy Australia	04	1.00
ACCC**	TransGrid	04	1.00
IPART	Electricity	04	0.95
Average	Gas and Electricity	04	1.05

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On the basis of the above it is clear that the Commission is proposing a compensation for systemic risk that is materially below that provided by any regulator other than the QCA 2001 decision to provide Ergon Energy with an equity beta of 0.71. The QCA decision is clearly an outlier and we have asked NERA to examine whether there are exceptional circumstances that might explain this precedent. NERA's advice is that in that decision the QCA made a mathematical error in the calculation of the equity beta. NERA advises that:

> "The QCA's calculation of a 0.71 equity beta relied on a prior calculation of the relevant debt beta. The calculation methodology used by the QCA calculated the debt beta as equal to the debt margin divided by the market risk premium. This implicitly assumed that the entire observed debt margin was due to the systemic risk associated with default risk (ie, the covariance of default risk with the market) and that none of the debt margin was due to default risk. Of course, this is impossible. Before there can be any compensation for covariance of default risk there must be a positive risk of default. It is illogical to calculate a debt beta as though the entire observed debt margin is compensation for systemic risk as this simultaneously implies that compensation for actual default risk (ie, the probability of not getting paid) is zero.
>
> On this basis we conclude that the QCA's calculation of the debt beta (and therefore equity beta) was wrong in fact and had no reasonable basis."

Given NERA's advice we feel strongly that the QCA 2001 decision should be discounted as relevant regulatory precedent. This suggests that the Commission's proposed approach to setting the equity beta makes it the most aggressive energy regulator in Australia. This is of great concern to ActewAGL especially because, as already outlined, the Commission is proposing to reduce the equity beta at a time when the headline WACC is at historically low levels due to the low risk free rate.

This strong departure from regulatory precedent should be accompanied with equally strong data and analysis justifying the Commission taking a different view to other Australian regulators. In ActewAGL's opinion this analysis has not been performed. The only basis that the Commission has provided for departing from regulatory precedent appears to be:

- The Allen Consulting Group 2002 report to the ACCC on equity betas;
- Reports from IPART (originally sourced from the ACCC) that AGL's observed equity beta has recently been measured at –0.01; and
- Data contained in the NECG report provided by ActewAGL to the Commission.

ActewAGL notes that the information contained in both of the first two dot points relates to analysis performed by or for the ACCC. ActewAGL further notes that, despite consideration of these empirical analyses, the ACCC has continued to allow an equity beta of 1.0 for regulated energy businesses (as evidenced by its recent draft decision for TransGrid). We believe that this is entirely appropriate given the extremely large levels of uncertainty surrounding the available statistical sources – as discussed in the next section.

While the Allen Consulting Group may have estimated an *average* equity beta for comparables of 0.7 in a *particular* sample period it is a very large leap of faith to assume that this is representative of a *specific* regulated business's equity period in any period going forward. Firstly, the average equity beta in a sample does not provide information on the *spread* (or variance) of equity beta's in that sample. If the regulator wishes to ensure with any confidence that they do not set the equity beta too low the spread in a sample is as important, if not more important, as the average of that sample. We discuss this more fully in the following section.

Secondly, the estimated average equity beta will depend heavily on the sampling period chosen. As noted by the Allen Consulting group themselves:

> "The re-levered equity betas for the US firms, in particular, are substantially lower than the estimates that have been obtained from past time 'sampling windows'. It could be hypothesised that the recent events on US share markets—such as the large surge in the values of high-technology stocks and then their subsequent fall—may have affected the beta estimates, and which may have biased the estimate of the forward-looking beta risk of these firms if those events were not considered by investors to be normal events. However, it is impossible to prove or disprove such a conjecture."

ActewAGL believes that it is entirely inappropriate for the Commission to rely on the Allen Consulting Group report as a justification for adopting a lower equity beta without having performed such statistical analysis. This is especially true given that Allen Consulting Group's client has not done likewise.

8.3.3 Statistical Analysis of Available Empirical Data

The Commission's conclusions on the equity beta contain some very strong statements regarding the level of confidence the Commission can claim that its equity beta is

generous. We believe that the statistical evidence does not support the Commission's conclusions. For completeness we repeat the Commission's conclusions below.

> The Commission also considered the issues raised by ActewAGL in relation to the weight of international evidence supporting a higher asset beta and, hence, equity beta. NECG compiled a list of the asset and equity betas estimates of 73 international gas distribution businesses. The Commission considers this evidence to be the most compelling evidence in favour of lower asset and equity betas. The NECG report calculates an average adjusted asset beta of 0.39 from these 73 observations. NECG goes on to state that this implies an asset beta in the range from 0.40 to 0.48.
>
> "The Commission has re-evaluated NECG's data to exclude non-Organisation for Economic Cooperation and Development (OECD) countries. The average asset beta for the 54 observations from OECD countries is 0.33. Applying NECG's approach this results in an asset beta in the range 0.34 to 0.42 and a calculated equity beta in the range 0.76 to 1.04. The Commission has used an asset beta of 0.40, which is not inconsistent with the estimation determined from the NECG data.
>
> "The ACCC Commissioned the Allen Consulting Group (ACG) to provide advice on the level of equity beta for regulated gas transmission companies. In that report ACG states:
>
> > "Exclusive reliance on the latest Australian market evidence would imply adopting a proxy equity beta (re-levered for the regulatory-standard gearing level) of 0.7 (rounded-up). Moreover, regard to evidence from North American or UK firms as a secondary source of information does not provide any rationale for believing that such a proxy beta would understate the beta risk of the regulated activities. Rather, the latest evidence from these markets would be more supportive of a view that the Australian estimates overstate the true betas for these activities"
>
> **"The Commission's view is that there is no evidence either domestic or international in support of an equity beta above 0.9. The report by ACG supports this view. In addition, the Commission notes that IPART reports that AGL's current estimated equity beta is equal to –0.01. This evidence further supports the Commission's view that estimated equity betas would potentially be much lower and certainly below 1.0.**
>
> "The conclusion is that the Commission does not believe that there is any compelling reason to move from its current level of the calculated equity beta. The Commission comes to this view by observing that this decision would be consistent with regulatory precedent and that the international evidence demonstrates that the current level of the equity beta is reasonable. Thus the Commission considers that its choices of a debt beta of 0.06 and an asset beta of 0.40 that result in a calculated equity of 0.90 are reasonable." [Emphasis added.]

ActewAGL argues below that the Commission's view that the available evidence *"supports the view that estimated equity betas would potentially be much lower and certainly below 1.0"* is simply not supported by the evidence.

NECG data

The Commission states that the evidence supplied by NECG "*to be the most compelling evidence in favour of lower asset and equity betas.*" The Commission argues that when OECD countries are separated out of the survey the data actually supports an asset beta range of between 0.34 and 0.42. It is then argued that this supports an equity beta range of 0.75 to 1.04.

> Applying NECG's approach this results in an asset beta in the range 0.34 to 0.42 and a calculated equity beta in the range 0.76 to 1.04. The Commission has used an asset beta of 0.40, which is not inconsistent with the estimation determined from the NECG data.

We asked NERA to examine whether the Commission's interpretation of the NECG data is reasonable. NERA concluded that the Commission's calculation of the NECG range includes a mathematical error affecting the calculation of the bottom of the equity beta range.[23] When this is corrected the range becomes 0.85 to 1.05 – with an average of 0.95. This suggests that the Commission has chosen a value for the equity beta that is from the bottom of the Commission's own 'adjusted' NECG range.

Perhaps more importantly NERA argues that the Commission is in error when it argues that the NECG data supports any confidence that ActewAGL's equity beta is below 1.0. NERA applies standard statistical techniques to determine the true confidence with which the Commission can make such claims. NERA's results are summarised in Table 8.2 below.

Table 8.2 NERA results of equity beta confidence intervals

Confidence interval	Upper bound equity beta (based on OECD sample)	Upper bound equity beta (Based on full NECG sample)
99%	1.75	2.15
97.5%	1.60	1.96
95%	1.47	1.79
90%	1.32	1.61
75%	1.08	1.31
60%	0.91	1.09

The interpretation of this table is that even if the rationale for creating a separate 'OECD sample' is accepted, the Commission can only state with a less than 60% confidence that ActewAGL's equity beta is less than 0.90. In other words, there is a 40% probability that ActewAGL's true equity beta is greater than that provided by the

[23] NERA argues that while the Commission correctly calculated the top of the range re-levering the asset beta using an debt beta of 0.00 (consistent with the manner in which the asset beta had been de-levered by NECG), it incorrectly calculated the bottom of the range re-levering the asset beta using an debt beta of 0.06. NERA argues that if an debt beta of 0.06 is to be used in the re-levering process the Commission must recalculate the original asset beta using a debt beta of 0.06. Had the Commission done this the equity betas would be around 10% higher – with the final equity beta being unaffected.

Commission. If the full NECG sample is used then there is a less than 50% chance that the Commission's equity beta fully compensates ActewAGL for systemic risk.

These ranges are a reflection of both the mean of NECG's sample and the variance within that sample. The Commission must look at both of these variables when drawing conclusions on the confidence it can place in a particular estimate of the equity beta.

In ActewAGL's view the Commission should be more than 50-60% confident that it's allowed equity beta is greater than the true equity beta. As already discussed, this view is based on a recognition of the asymmetric costs of regulatory error and on the fact that there is considerable uncertainty that is not captured in the above confidence intervals (eg, uncertainty surrounding the predictive power of the CAPM). ActewAGL believes that an appropriate confidence interval exceeds 75% - suggesting that the equity beta range should be something above 1.08 to 1.31. This is consistent with ActewAGL's proposed equity beta range of 0.98 to 1.1.

8.3.4 Gas is riskier than electricity

ActewAGL believes that even if it is accepted that an equity beta of 0.9 is appropriate for electricity distribution it is not appropriate for gas distribution. This has been largely reflected in Australian regulatory precedent with gas transport businesses receiving a higher equity beta. In the table 8.1 above there are 15 decisions relating to gas transport and 17 relating to electricity transport. The average equity beta associated with gas decisions is 1.13 while the average equity beta associated with electricity decisions is 0.97. This suggests that regulatory precedent supports a view that gas transport operations require a premium of 0.16 in their equity beta compared to electricity businesses.

Volume risk

The source of the greater risk facing gas businesses is higher volatility in earnings due to higher volatility in volumes sold. ActewAGL can provide evidence to substantiate this difference in volatility from both its gas and electricity operations. Based on the last seven years of data for gas and six years of data for electricity the standard deviation of gas volumes, adjusted for seasonality, around a linear trend is around 3.9 times as great as for electricity. The relative co-variability of gas and electricity volumes with the market return is at least 3.5 times as high for gas as for electricity.

ActewAGL asked NERA to advise what the implications of this greater volatility in volumes would be for the equity beta associated with ActewAGL's gas assets relative to ActewAGL's electricity assets. NERA concluded that:

> If the marginal price on sales exceeds the marginal cost of sales then a higher standard deviation in the volume of sales will tend to be associated with a higher covariance with the market and, consequently, a higher equity beta. This reflects the fact that covariance and (beta) is proportional to the product of the correlation of the asset's return with the market **and** the standard deviation of the asset's return overtime. This means that for any given correlation of returns, the higher the standard deviation of those returns the higher the systemic risk. Thus, in the absence of any information on differences in correlations, it is appropriate to

assume that a higher standard deviation will be associated with a higher equity beta.

"The only reason this would not be true would be if gas sales had a lower correlation with the market than electricity sales. We have tested the correlation of monthly volumes of gas and electricity sales against returns on the market and find them to be almost identical.

"In summary, the available evidence on the variability of gas and electricity volumes, and their co-variability with the market, strongly suggests that the asset (and therefore equity) beta of ActewAGL's gas operations is materially higher than its electricity operations. **Accepting an equity beta of 0.9 for ActewAGL's electricity operations suggests an equity beta for its gas operations that is in excess of the range proposed by ActewAGL (ie, 0.98 to 1.09)."** [Emphasis added.]

ActewAGL regards this information on greater volatility and greater market co-variability of gas volumes relative to electricity and NERA's associated advice as substantive new information before the Commission. ActewAGL requests that the Commission give this evidence considerable weight when forming its final decision.

Based on NERA's advice ActewAGL believes that its proposed range is entirely reasonable. However, even if the Commission were to reject this magnitude of adjustment, ActewAGL considers that it would be entirely inappropriate to assume the same equity beta for gas and electricity. An alternative approach would be to adopt the average of regulatory precedent and add a 0.16 premium to the electricity equity beta – giving a gas equity beta of 1.06 (0.90+0.16).

Technological risk

ActewAGL has argued that the costs of major unforeseen incidents, including terrorist acts or natural disasters which damage the network, should be covered in the cost pass-through provisions of the Access Arrangement. If the risk of these potentially large costs is not covered in the pass-through arrangements, then ActewAGL must be compensated for the additional risk with a higher WACC.

8.4 Debt Premium

In this section ActewAGL presents new evidence suggesting that the debt premium provided for in the draft decision:

- should be higher than provided for in the electricity decision to reflect the greater default risk associated with volume risk; and
- should be higher given the implied credit rating associate with ActewAGL's gas operations if they were operated by a standalone 60% geared business.

8.4.1 Volume risk and the debt premium

In section 8.3.4 we describe the greater volume risk associated with gas operations. In that section we quote from a NERA report that suggests that this volume risk, under reasonable assumptions, implies a materially greater equity beta for gas than

electricity. We also asked NERA to examine the implications of this differential in volume risk for the debt premium and their analysis is summarized in the below quote.

> By definition, lenders set the debt premium based on the probability of default and the expected severity of default (relative to the probability of default on the 'risk free' rate). If a business's revenues and costs are known with relative certainty (ie, have a small standard deviation) then, other things equal, the probability of default on debt will be lower than if those revenues or costs are more volatile. That is the probability that losses will exceed the available 'equity buffer' is higher the higher is the volatility in revenues. In the presence of a higher probability of default lenders will require a higher debt margin. **For this reason we can be unequivocal that higher standard deviation in gas sales relative to electricity will result in a higher debt premium for the gas operations as a standalone entity**. [Emphasis added.]

This higher default risk associated with the debt of gas businesses has been acknowledged by the ACCC which has stated that there are good reasons to expect gas transport companies to have lower credit ratings than electricity transport companies with equivalent gearing ratios. The ACCC ElectraNet revenue decision paraphrases the Standard and Poor's, Energy Australia & New Zealand, November 2001:

> "In assessing the creditworthiness of Australian gas companies, Standard and Poor's would consider a number of key issues. They relate specifically to regulatory risk; counterparty risk; and **overall volume of demand for gas**." [Emphasis added]

Based on the above analysis, ActewAGL considers that its proposed debt premium is reasonable.

In the following sections ActewAGL presents evidence that the credit rating for its standalone gas operations would be BBB or lower. We then provide advice from Westpac Institutional Bank that the debt premium (excluding transaction costs) associated with a BBB credit rating is between 1.39% and 1.54%.

BBB credit rating

ActewAGL has asked Deloitte to review its model that estimates the credit rating that would apply to a standalone company operating ActewAGL's gas assets. Deloitte has advised that an appropriate gearing is BBB, based on regulatory precedent. Using regulatory assumptions and a regulatory gearing of 60% the Commission's draft decision results in a speculative grade rating of B for each year of the Access Arrangement period. Even when using the actual gearing of ActewAGL's joint venture partners, the credit rating remains a speculative grade for 3 of the 5 ½ years of the Access Arrangement. The initial ActewAGL proposal using the joint venture partners' actual gearing results in a BBB rating for the period of the Access Arrangement. The financial analysis and credit rating is discussed further in Attachment 1.

A BBB rating is consistent with the Australian Competition Tribunal's finding in the EAPL appeal that a credit rating of BBB must be adopted for EAPLs gas transport operations.

The gas distribution industry in South Eastern Australia, and in particular the ACT is subject to far greater risk than electricity distribution due to its reliance on a very limited number of sources of Supply and Transmission. Whereas there a number of electricity suppliers virtually all gas used in the ACT is supplied from Moomba through the EAPL Transmission line. Limited supplies are now also available from Bass Straight through the EGP.

A major incident at Moomba or along the EAPL Distribution system could have a lengthy and dramatic effect on ActewAGL's ability to carry on its business and to generate revenue. Furthermore any such incident would be completely beyond the control of AcewAGL.

Recent incidents at Longford and at Moomba have shown that this risk is real and should not be overlooked.

NERA also advises that a credit rating of BBB is also supported by a review of Standard and Poor's credit ratings for privately owned gas transport companies. The following table replicates in full the credit ratings contained in Standard and Poor's publication "S&P Australian Report Card Utilities". In addition NERA has collected information on the activities of each of these companies from their respective websites. This information is set out in Table 8.3 below.

Table 8.3 Credit ratings for gas transport companies

Company Name	S&P Rating	Govt Owned	Gas Retail	Gas Dist Pipeline Owner	High Pressure Gas Trans
Sydney Water Corp	AAA	Y	N	N	N
Ergon Energy	AA+	Y	N	N	N
Country Energy	AA	Y	Y	Y	N
EnergyAustralia	AA	Y	Y	N	N
Integral Energy	AA	Y	N	N	N
Delta Electricity	AA-	Y	N	N	N
SPI Powernet	A+	Y	N	N	N
Australian Gas Light Co.	A	N	Y	Y	N
Citipower Trust	A-	N	N	N	N
ETSA Utilities	A-	N	N	N	N
Powercor Australia LLC	A-	N	N	N	N
Origin Energy Ltd	A-	N	Y	N	N
ElectraNet Pty Ltd	BBB+	N	N	N	N
Snowy Hydro Ltd	BBB+	N	N	N	N
Alinta Ltd	BBB	N	Y	Y	N
Edison Mission Energy	BBB	N	N	N	N
Envestra Ltd	BBB	N	Y	Y	N
GasNet Australia	BBB	N	N	N	Y
TXU Australia Holdings	BBB	N	Y	Y	N
United Energy Distribution	BBB	N	N	N	N
Duke Energy Australia Pty	BBB-	N	N	N	Y
Energy Partnership (Gas)	BBB	No information available			
Diversified Utility and Energy Trust	BBB-	No information available			

Clearly, the dominant explanation of credit rating is government ownership – with all of the seven top ranked companies being government owned. When these businesses are excluded there are six privately owned businesses with either gas distribution or gas transmission assets. Five of those six have a credit rating of BBB or BBB-. Only AGL, with a credit rating of A, has a credit rating of above BBB. (Moreover, this credit rating is largely explained by the fact that AGL has a substantially lower debt gearing than both other gas companies and the assumed regulatory gearing of 60 percent.) This is strong evidence that ActewAGL would have a BBB credit rating if it were a standalone gas transport business.

Yields on BBB debt

We have been advised by the Westpac Institutional Banking that on 13 August 2004 the margin (excluding transaction costs) on BBB corporate bonds relative to 10 year Commonwealth bonds is 1.39% to 1.54%.

When transaction costs of 0.125% are added to this the Westpac Institutional Banking's range for the debt margin is entirely above ActewAGL's proposed value of 1.43. In fact, only for credit of ratings of A or above would Westpac Institutional Banking's range fall below ActewAGL's proposed debt margin. Assuming a credit rating of A or above would be clearly inconsistent with the evidence and the precedent set in the ACT's decision on the cost of debt for the Moomba to Sydney pipeline.CBASpectrum and Westpac IB estimates of yields on BBB debt

8.5 The Value of Gamma

ActewAGL has asked NERA to examine the evidence on the value of gamma and the Commission's reasoning in the draft decision for rejecting NECG's arguments that the value of gamma should be less than zero.

NERA advises that the Commission is correct in stating that, in the CAPM model, all investors are marginal in the sense that all investors optimize their portfolios to maximise the risk adjusted return on those portfolios. NERA agrees with the Commission that, for this reason, it is not helpful to question whether the 'marginal' investor is foreign or domestic as all investors are marginal. However, NERA disagrees with the Commission's conclusion that if the value of gamma were close to zero then close to all trades on the domestic market would be made by foreigners. NERA argues that it is perfectly possible for the value of gamma to be zero and for all trades on the domestic market to be made by domestic residents.

As explained by NERA in its report for ActewAGL, the value of gamma will be zero if foreigners have an elastic demand for Australian equity but Australian investors have a less than perfectly elastic demand for Australian equity. That is, the value of gamma will be zero if foreigners view equity in other countries as perfect substitutes for Australian equity in their portfolio but Australian residents do not view Australian equity as perfect substitutes for foreign equity. NERA argues that this is very likely to be approximately true as a foreigner can easily diversify their equity portfolio without

including Australian equity while an Australian investor cannot do so without including some foreign equity.

NERA argues forcefully that this means that NECG was correct to state that Australian equity investors receive a 'windfall' from imputation credits but that the Commission was incorrect to argue that this meant:

> If the NECG model of the Australian stock market were true then most, if not all, of the trades on a daily basis would be trades made by international investors. Australian investors would be holding portfolios comprised of stocks with excess returns, and as these returns are in excess of the market return, there would be little reason for Australian investors to make trades to reposition their portfolios for small changes in either return or risk. Foreign traders as the drivers of stock prices would make all (or almost all) of the trades. This is clearly not the case.

NERA states:

> The existence of imputation credits, and the associated windfall to domestic residents, does not change the frequency with which Australian residents will make trades to equilibrate their portfolios. The only effect of imputation credits on investors' portfolios will be to increase the proportion of residents' portfolios that are made up of Australian stock and vice versa for foreigners. Once this initial equilibration has been achieved investors will respond to 'news' in precisely the same manner as they would have previously. Thus, evidence that suggests a large proportion of trades being made by residents actually supports the 'NECG model' rather than undermining it.

Professor Grundy has also examined the latest empirical evidence on the value of gamma recently for TransGrid. Professor Grundy's analysis of the literature suggests that prior to 1997 there was evidence that the value of gamma was significantly above zero and perhaps as high as 0.5. However, on the basis of post 1997 data Professor Grundy concluded in July 2003 that the best available empirical evidence is that the value of gamma is zero.

> "Australian residents may well enjoy the tax credit, but post 1997 they have not had to pay any more for a dollar of franked dividends (i.e., dividends with attached tax credits) than they must pay for a dollar of unfranked dividends. The implication for Australian companies raising equity capital is clear. To raise capital Australian companies must price the issue so that it is potentially attractive to overseas investors; i.e., to investors who do not qualify for imputation credits. Thus the best available empirical evidence on the value of gamma under the current tax law is that gamma is zero." Page 5 of "The Value of Gamma" a report attached to TransGrid's 2004 ACCC revenue application (available on www.accc.gov.au).

This is consistent with the conceptual framework provided by NERA.

On the basis of NERA's advice that the Commission's rationale for rejecting NECG's advice was flawed and on the basis of Professor Grundy's evidence, ActewAGL submits that the Commission should choose a value for gamma of between 0.0 and 0.5. ActewAGL believes that the midpoint of this range (ie, 0.25) is reasonable, which is below that submitted in the proposed Access Arrangement.

8.6 Compensation for Capital Raising Costs

ActewAGL did not request any compensation for transaction costs associated with raising equity.

ActewAGL originally proposed, based on regulatory precedent, 12.5bp compensation for transaction costs associated with raising debt. In its response to the Commission's issues paper ActewAGL made clear that it had received advice from NECG supporting a claim for 50bp compensation for debt raising costs. In the draft decision the Commission accepted ActewAGL's proposed compensation for debt raising costs.

8.6.1 Equity raising costs

While ActewAGL did not include compensation for equity raising costs in its original proposal, this was an oversight rather than a deliberate policy. This oversight is amended in this section of our response to the Commission's draft decision.

The costs of raising equity are an unavoidable cost of operating a business enterprise. Equity raising costs are the costs associated with informing investors of the value of the firm and establishing legal equity instruments. The transaction costs per dollar of equity finance tend to be greater than the costs associated with debt due to the greater level and variety of risks equity investors must be induced to take on. The costs of raising equity include asset valuation costs, advisory fees, due diligence and other legal costs.

The ACCC has recently used benchmark data to estimate the costs of raising equity at around 20bp. In its SPI PowerNet decision, the ACCC allowed a margin of 21.5bp for the costs of raising equity. The relevant benchmarking data is repeated below.

Table 8.4 Equity raising costs

	Date of offer	Details of offer	Raising costs ($m)	Total Offer ($m)	Fees as a % of total offer	Fees per year
United energy	Mar-98	IPO	201	968.2	2.1	0.125%
MCIG	Jul-02	IPO	13	310	4.2	0.254%
APT	May-00	IPO	12	488	2.5	0.149%
Envestra	Jul-99	Rights offer	10.1	310	3.258	0.195%
GasNet	Oct-01	IPO	15	260.16	5.77	0.349%
Average			14.02	467.27	3.548	0.215%

In the last column of the above table the ACCC calculated an annualised equity raising cost by applying a real vanilla WACC to the second last column 'fees as a % of total offer' (in the case of SPI PowerNet the real vanilla WACC was 5.95%). The ACCC's approach recognises that substantial costs must be incurred at the time equity is raised and that a return is required on this 'intangible' investment in the same way that a return is required on a physical asset.

> The Commission considers that an average of these annual costs represents an appropriate Australian benchmark for the purposes of this decision. Accordingly, the equity raising costs of 0.215 per cent per year of regulated equity should be

used. With a RAB of $183.56 million of the assumed benchmark gearing ratio of 60:40, this amounts to an average allowance of $8.19 million over the regulatory period.

The Gas Code requires the Commission to have regard to replicating the outcomes in a competitive market. Allowing equity raising costs is consistent with replicating outcomes in a competitive market. In a competitive market the price is set by reference to the cost of a new entrant. New entrants require equity to finance an expansion/entry into new markets. Firms will only enter a new market when prices are expected to cover all their costs of entry – including the costs of raising debt *and* equity to finance that entry.

The legitimate business interests of ActewAGL also require that it be compensated for the costs of raising equity. In 2000 the ActewAGL Joint Venture was formed where ACTEW effectively raised equity from AGL to purchase a share of AGL's gas assets and *vice versa* for AGL's purchase of a share of ACTEW's electricity assets. ActewAGL has effectively foregone a return on these costs during the current regulatory period but does not believe that it should continue to do so.

On the basis of the ACCC's benchmarking data and a real vanilla WACC of 6%, ActewAGL submits that a cost of equity finance be raised by 21.6bp per annum. We note that the ACCC included this compensation for SPI PowerNet in its opex building block. ActewAGL is happy for this regulatory precedent to be followed by the Commission.

8.7 Summary

In summary, ActewAGL believes that it has provided strong and sufficient evidence to support its proposed range for the pre tax real WACC of between 7.62% and 8.22%.

ActewAGL has also provided new evidence to suggest that equity raising costs of around 21.6bp should be included in the Commission's WACC calculation (that is, added to the cost of equity) or an equivalent amount separately included in operating costs.

9 Reference tariffs and reference tariff policy

9.1 Draft decision

ActewAGL is required to amend its proposed CPI-related price path so that no more than the Commission's allowed total revenue is recovered (s. 11.7). The allowed total revenue is approximately 10.5 per cent below ActewAGL's proposal.

In the draft decision, the Commission:

- has not approved the additional pass-through provisions to those already applying under the 2001 Access Arrangement (s. 11.7).
- does not propose to require the establishment of a formal link between tariffs and service standards.
- accepts ActewAGL's proposed fixed principles, but requires that a fixed period be specified.

9.2 Response

9.2.1 Total revenue and price path

ActewAGL accepts that the CPI-related price path will need to be amended.

9.2.2 Cost pass-through

ActewAGL is concerned that the Commission has failed to adequately assess its cost pass-through proposal and has instead proposed maintaining the pass-through events set out in the 2001 Access Arrangement.

However in proposing this approach the Commission has failed to recognise that current pass-through events are either:

- no longer relevant (eg introduction of Utilities Act, heating value measurement, introduction of retail contestability); or
- would benefit from clarification as to their nature and extent (eg authorisation fees and government taxes).

ActewAGL's detailed comments on the current pass-through events are in Table 9.1, and our proposed approach, with supporting comments, is set out in Table 9.2.

In its consideration of issues (pp. 183-184) the Commission does not address each proposed pass-through event and does not take account of key issues such as regulatory precedent. For example, the decision not to allow ActewAGL's proposed regulatory event is inconsistent with the Commission's own precedent, set in the final decision for ActewAGL's electricity network (ICRC 2004d).

The Commission has recognised in its electricity network decision that there is a strong likelihood that a change resulting from a service standard event would result in a material cost increase (ICRC 2004c, p. 123). As a result, it has allowed a service standard event to be included in the pass-through arrangements for electricity.

Despite this, the Commission has rejected ActewAGL's proposal to include a regulatory event (which is similar to a service standard event, but defined to take account of specific factors for the gas industry, including the possibility of changes to the Gas Code). As a result, ActewAGL will be exposed to the risk of material cost increases.

ActewAGL acknowledges the Commission's point that assessment of some pass-through events may require more consultation and analysis than is provided for in the annual assessment process. This point is relevant to the proposed capital cost event. ActewAGL therefore accepts the draft decision that the capital cost event should not be allowed as a pass-through event. It should instead be dealt with under the provisions of section 2 of the Gas Code.

However, ActewAGL strongly believes that its other proposed pass-through events are reasonable and should be accepted.

Table 9.1 Cost pass-through in the 2001 Access Arrangement

2000 AA clause	Explanation of clause	Comment
3.7 - Reference Tariffs	Reference Tariffs may be adjusted for additional costs for: • heating value measurement; or	ActewAGL does not currently use this type of measurement. If it were to be introduced, it would be by external regulation. Accordingly, we submit that a Regulatory Event pass through like the one proposed in Table 9.2 is appropriate by way of updating this pass through event for current circumstances.

2000 AA clause	Explanation of clause	Comment
	• compliance with Utilities Act 2000.	The provision for a pass through for compliance with the Utilities Act 2000 was included to cover the cost of the introduction of the Act. As the Act has since been fully introduced, it is no longer relevant. However, as with the heating value measurement pass through event, we submit that a pass through for significant changes in the legislation would be appropriate. This is covered by our proposed Regulatory Event pass through (see Table 9.2).
3.8 - Reference Tariffs	Reference Tariffs to be adjusted to recoup the costs of introduction of retail contestability: • that are permitted by any law relating to retail contestability in the gas industry in ACT, Queanbeyan & Yarrowlumla, or its implementation; • stipulated in a direction of the Minister; • stipulated by any person or group appointed by Government or industry to inquire into or implement retail contestability, other than those costs already permitted; or • verified by an independent person appointed by ActewAGL as being those costs that may be properly be recoverable under the Code, other than costs already permitted.	This event is no longer relevant, since retail contestability has been introduced. However, ActewAGL would need a pass through if the scheme changed significantly, and new obligations or additional costs were to be imposed on ActewAGL. This is covered by our proposed Regulatory Event pass through (see Table 9.2).

2000 AA clause	Explanation of clause	Comment

3.9 - Imposts and Other Statutory Charges	Reference Tariffs may be varied:
	• by the amount of any change in the authorisation fee paid by ActewAGL for a distribution authorisation or similar under the:
	  • Gas Supply Act (ACT);
	  • the Utilities Act (ACT);
	  • Gas Supply Act 1996 (NSW); or
	  • Pipelines Act 1967 (NSW).
		The term "authorisation" needs updating, as only the NSW licences are called authorisations. We also suggest that new licence fees, and reductions in fees should be included in the pass through.
		We have attempted this in our proposed Regulatory Event pass through (see Table 9.2).

	• by the amount of any change in the level of any government fees, taxes or charges.	We submit that "government fees, taxes or charges" should be clarified, which we have proposed in our Change in Tax Event (see Table 9.2).

Table 9.2 ActewAGL's Proposed Pass-through Events

Proposed AA clause	Explanation of clause	Comment
6.11 - Capital Cost Event	• New Facilities Investment on an item that is greater than the Forecast Capital for that item; or • New Facilities Investment on an item not contemplated in the Forecast Capital, to the extent that investment satisfied section 8.16 of the Code.	ActewAGL accepts the draft decision to remove this pass through event.

Proposed AA clause	Explanation of clause	Comment
6.11 - Change in Tax Event	• a change in the way or rate at which a Relevant Tax (this does not include income tax, capital gains tax, stamp duties etc) is calculated; or • the removal of a Relevant Tax or imposition of a new Relevant Tax. A "Relevant Tax" means any tax (including any rate, duty, charge or levy or other like impost) that is imposed by or payable directly or indirectly by ActewAGL to any Authority of the Commonwealth of Australia (including goods and services tax), but excluding: (a) income tax (or State equivalent income tax) or capital gains tax; (b) stamp duty, financial institutions duty, bank account debits tax or similar taxes or duties; (c) penalties and interest for late payment relating to any tax; and (d) any tax which replaces a tax referred to in (a) - (c) above, where "tax" includes any rate, duty, charge or other like impost.	We suggest that the drafting in the proposed Access Arrangement provides greater certainty as to the nature and extent of the taxes that may be passed through. The 2001 Access Arrangement is not very clear in its description of the taxes that may be passed through. It simply states "government fees, taxes or charges" rather than clarifying the position in regards to tax pass through as our proposed Change in Tax Event does (see 3.9 above). In this clause we have specifically attempted to clarify the types of tax costs that may be passed through and those that may not. We have also included a pass through event for the removal of any Relevant Tax, which is directly for the benefit of Users.
6.11 - Insurance Event	• insurance becomes unavailable; • insurance becoming unavailable at reasonable commercial rates; • insurance becoming unavailable on terms at least as favourable as those generally available prior to Commencement Date of proposed AA;	Given the uncertainties associated with the insurance market in the current global environment, ActewAGL continues to seek this pass through event. The ACCC has approved similar pass through arrangements for unexpected changes in insurance costs for SPI PowerNet, GasNet, Powerlink and Murraylink.

Proposed AA clause	Explanation of clause	Comment
	• cost of insurance becoming materially higher or lower than at the Commencement Date; • an insurance benefit payment to ActewAGL is reduced by a deductible amount.	We believe that an Insurance Event pass through is an appropriate mechanism for ActewAGL to address this potential risk for the business. However, if the Insurance Event pass through were excluded, then the Commission should allow ActewAGL an increase in the WACC it receives, in order to compensate it for the additional risk it would bear.
6.11 - Regulatory Event	Any decision by ICRC or any other Authority or amendment to Gas Law which has the effect of: • imposing minimum standards on ActewAGL that are different from standards at the Commencement Date; • substantially altering the way ActewAGL is required to undertake the Reference Services (or ancillary services); • changing or introducing any authorisation fee, licence or statutory charge; • changing ActewAGL's obligations under the Code.	The Commission's Final Decision for Electricity recognised that there was a strong likelihood that a change resulting from a service standard event would result in a *material cost increase*. The Commission considered either providing a pass though mechanism or making an additional allowance in the WACC. The Commission decided that it would be more appropriate to allow a pass though event. ActewAGL's proposed pass through for a Regulatory Event is designed to allow pass through where there is a change in the service standards ActewAGL must provide. ActewAGL submits that this is an appropriate mechanism consistent with the objective set out in section 8.1(a) of the Gas Code that provides for a Service Provider to "earn a stream of revenue that recovers the efficient costs of delivering the Reference Services". This pass through will also cover: • costs for heating value measurement if this is introduced as a requirement, consistent with the approach of the existing Access Arrangement (see 3.7 in Table

Proposed AA clause	Explanation of clause	Comment
		9.1 above); • material changes in Utilities Act compliance and retail contestability, consistent with the approach of the existing Access Arrangement (see 3.7 & 3.8 in Table 9.1 above); • a clearer and more effective description of the authorisation and licence fee pass through events contained in the current Access Arrangement (see 3.9 in Table 9.1 above).
6.11 - Unforeseen External Event	Any external event which is reasonably considered to be beyond ActewAGL's control, including natural disasters and events caused by terrorism.	ActewAGL believes that this pass through event is unlikely to be used, but does provide necessary protection for ActewAGL in extreme circumstances. ActewAGL has already had one major unforeseen event in the recent past, the 2003 ACT bushfires. However, ActewAGL did not seek to recover any of the costs of the bushfires (in excess of $1million) under the existing Access Arrangement, as there was no pass through mechanism that envisaged such an event, and to do so would have involved re-opening the entire Access Arrangement for review which would have involved a substantial cost of itself. ActewAGL does not intend to claim a pass though event for the 2003 bushfires should our proposed Unforeseen External Event drafting be adopted. However, ActewAGL believes it is reasonable to seek this type of risk to the business to be covered in the next Access Arrangement. We note that the Commission's Final Decision for Electricity allowed a pass

Proposed AA clause	Explanation of clause	Comment
		through for unforeseen costs associated with terrorist attacks and major natural disasters.

9.2.3 Tariffs and service standards

ActewAGL agrees with the Commission's draft decision to work towards the determination of an appropriate S factor for the subsequent Access Arrangement period. However, ActewAGL is concerned about the comment that the Commission 'will embark on a paper trial….' (p. 186). Any decisions of whether and how to proceed towards implementing an S factor should be made after the process of consultation and analysis. It is unreasonable to assume that a paper trial will proceed, without an assessment of its likely costs and benefits.

9.2.4 Fixed principles

ActewAGL proposes that the fixed principles apply for the term of the Access Arrangement.

10 Extensions/expansions policy

10.1 Draft decision

The Commission proposes to approve ActewAGL's extensions and expansions policy, subject to the issue of 'significance' (whereby significant extensions and expansions may be excluded from coverage under the Access Arrangement, on ActewAGL giving notice to the Commission) being decided by the Commission on a case-by-case basis (s. 12.6).

10.2 Response

ActewAGL accepts the draft decision.

11 Capacity management, trading and queuing policies

11.1 Draft decision

The Commission proposes to approve ActewAGL's proposed capacity management policy (s. 13.1.6) and queuing policy (s. 13.3.6).

The Commission requires one change to ActewAGL's proposed trading policy. It requires ActewAGL to take reasonable steps to respond to urgent requests for trade within two business days of the request (s. 13.2.6). ActewAGL had proposed five business days.

11.2 Response

ActewAGL agrees to amend the response time to two business days.

12 Summary – responses to draft amendments

In order for ActewAGL's proposed Access Arrangement revisions to be approved, the Commission requires the following amendments. ActewAGL's summary response is indicated at the end of each amendment.

Amendment 1

ActewAGL must include the following wording in its Access Arrangement:

> The Meter Data Service Reference Service will cease to be offered as a Reference Service, and at ActewAGL's discretion as a Service, on the date of the commencement of any law, Code or instrument (or the lawful adoption of any Code or instrument by any person or group of people appointed by Government or industry to implement retail contestability in the gas industry in the Australian Capital Territory) where that law, Code or instrument permits the provision of meter reading and on-site data and communication services in the ACT, Queanbeyan and Yarrowlumla by a person other than ActewAGL.

ActewAGL response – Reject. Propose alternative words (refer section 2.3.3).

Amendment 2

The Access Arrangement is to specify that ActewAGL will achieve no worse than its 'current' service standards as reported in the Commission's compliance and performance reports for 2002–03 and, when such information becomes available, its reported service standards for 2003–04.

ActewAGL response – Reject (refer section 2.3.4)

Amendment 3

ActewAGL is to specify in its Access Arrangement that it will provide an estimate of the cost of processing a request for service on request by a prospective user.

ActewAGL response - Accept

Amendment 4

Clause 1.17 of Attachment 4 of ActewAGL's proposed Access Arrangement is to be amended so that a user's liability to ActewAGL in relation to ActewAGL's actions to implement load shedding shall relate only to direct loss that the user has caused to ActewAGL.

ActewAGL response – Reject. Alternative words proposed (refer section 3.3.2).

Amendment 5

ActewAGL is to adopt the forecast asset services and asset expenditure as determined by the Commission in Section 7.

ActewAGL response – Reject (refer section 5.3.1).

Amendment 6

ActewAGL is to adopt the forecast marketing expenditure as determined by the Commission in Table 7.12.

ActewAGL response – Accept

Amendment 7

ActewAGL is to adopt the forecast UAG expenditure as determined by the Commission in Table 7.14.

ActewAGL response – Reject (refer section 5.3.2)

Amendment 8

ActewAGL is to adopt the forecast non-capital costs as determined by the Commission in Table 7.17.

ActewAGL response – Reject (refer chapter 5)

Amendment 9

ActewAGL is to replace its capital program expenditure forecast with the capital expenditure forecast determined by the Commission as shown in Tables 8.12 and 8.13.

ActewAGL response – Reject (refer chapter 6)

Amendment 10

The Commission's required variations to ActewAGL's capital expenditure forecasts have a consequential effect on projected depreciation charges over the forthcoming Access Arrangement period. Accordingly, ActewAGL is to adopt revised depreciation charges determined by the Commission, as shown in the asset roll-forward summary table, Table 8.14.

ActewAGL response – Accept that a change in capital expenditure will impact depreciation and depreciation will be amended based on final capital expenditure decision

Amendment 11

ActewAGL is to adopt the roll-forward of the opening capital base over the forthcoming Access Arrangement period, adjusted for the effects of capital expenditure, depreciation, disposals and inflation as determined in by the Commission, as shown in the asset roll-forward summary table, Table 8.14.

ActewAGL response – Accept the methodology. A change to the final capital expenditure and depreciation will, however, result in a change to the roll forward.

Amendment 12

ActewAGL is to adopt the forecasts, including the tariff volume forecasts, shown in Table 9.11.

ActewAGL response – Reject (refer chapter 7)

Amendment 13

ActewAGL is to remove the building-block component, return on working capital, from its calculation of the total cost of service (total revenue requirement) of the ACT natural gas pipeline system for the forthcoming Access Arrangement period.

ActewAGL response – Reject (refer section 4.3.1)

Amendment 14

ActewAGL must adopt a pre-tax real WACC of 6.82 per cent in calculating the return on capital component within the cost of service methodology, subject to fluctuations in the risk-free rate and real risk-free rate.

ActewAGL response – Reject (refer chapter 8)

Amendment 15

ActewAGL must adopt the total revenue requirement determined by the Commission as set out in Table 11.3.

ActewAGL response - Reject

Amendment 16

ActewAGL must revise the parameter values (in the form of 'P^0' and X factors) incorporated into its CPI-related formula, in order that this price path mechanism be designed to recover no more than ActewAGL's total revenue requirement as determined by the Commission (specified in Amendment 15). This required amendment is to directly flow through to real tariffs contained in ActewAGL's Access Arrangement.

ActewAGL response – Accept methodology. Outcome will change based on changes in the revenue requirement.

Amendment 17

Where ActewAGL proposes to amend the Access Arrangement in compliance with Amendment 16 by amending the 'P^0' factor incorporated into its CPI-related price path formula, in addition to the required changes to real tariffs contained in ActewAGL's Access Arrangement, ActewAGL is required make commensurate adjustments to its proposed 2004–05 tariffs as set out in tables 2.7 and 11.2 of this draft decision.

ActewAGL response - Accept

Amendment 18

ActewAGL must delete from its list of eligible pass-through events the following event categories:

- capital cost event
- regulatory event
- insurance event

- unforeseen external event.

Eligible pass-through events shall comprise only the following event categories, which apply under the 2001 Access Arrangement:

- change in fee for a reticulator's authorisation
- change in level of any government fees, taxes or charges.

Pass-throughs in relation to these event categories, combined with the annual process to apply the CPI-related price path mechanism as varied by the Commission's draft decision in Amendment 16 above, shall comprise ActewAGL's approved reference tariff variation method in accordance with sections 8.3A to 8.3H of the Code.

ActewAGL response – Reject (refer section 9.2.2)

Amendment 19

ActewAGL must specify a fixed period to which its proposed fixed principles shall apply.

ActewAGL response - Accept

Amendment 20

ActewAGL is to amend the extensions/expansions policy in its Access Arrangement to provide that the issue of whether an extension or expansion is 'significant' shall be decided by the Commission on a case-by-case basis (in terms of ActewAGL being able to provide written notice to the Commission of a significant extension or expansion being treated as a stand-alone pipeline and therefore not covered under the Access Arrangement for the ActewAGL's natural gas pipeline system). ActewAGL is to amend the extensions/expansions policy to require ActewAGL to give the Commission written notice prior to such an extension or expansion entering service.

ActewAGL response – Accept

Amendment 21

ActewAGL is to amend its proposed trading policy to provide that it will take reasonable steps to respond to urgent requests for trade within two business days of receiving the request (rather than five business days, as proposed).

ActewAGL response - Accept

References

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ActewAGL 2003, *Proposed Revisions*, submission to the Independent Competition and Regulatory Commission, December.

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Australian Competition Tribunal (ACT) 2003, *Application by GasNet (Australia) Operations Pty Ltd*, December 2003.

Deloitte 2004, *ActewAGL Gas Networks Credit Rating Model, Final Report*, August.

Essential Services Commission (ESC) 2002, *Review of Gas Access Arrangements, Final Decision*, October.

Independent Competition and Regulatory Commission (ICRC) 2004a, *Investigation into Prices for Electricity Distribution Services in the ACT, Final Decision*, March.

ICRC 2004b, *Issues Paper – Review of Access Arrangement for ActewAGL natural gas system in ACT, Queanbeyan and Yarrowlumla*, February.

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Network Economics Consulting Group (NECG) 2003, *International Comparison of WACC Decisions*, Submission to the Productivity Commission Review of the Gas Access Regime, September.

Parsons Brinckerhoff (PB) 2004, *Review of ActewAGL Gas Network Capital and Operating Expenditure*, June.

Productivity Commission (PC) 2004, *Review of the Gas Access Regime*, Final Report, June, Canberra.

PC 2003, *Review of the Gas Access Regime*, Draft Report, Canberra.

PC 2001, *Review of the National Access Regime*, Canberra.

A1 FINANCIAL ANALYSIS

A key requirement of the Gas Code is that the legitimate business interests of the service provider are taken into account (s. 2.24). In its 2000 final decision on ActewAGL's Access Arrangement, the Commission took account of the financial viability of ActewAGL, arguing that:

> The projected outcomes should be consistent with maintaining an investment grade credit rating (ICRC 2000, p. 113).

In a recent review of ActewAGL's credit rating model, Deloitte (2004) also noted that:

> There appears to be a general consensus between regulators and owners of utility infrastructure that "the financial ratios of [a] regulated distribution business should not fall below those implied by an investment grade or BBB credit rating"[24].

A key to credit ratings is shown in Table A1.1 below. A BBB credit rating is equivalent to a rating of investment grade.

Table A1.1 Standard & Poor's Possible Ratings

Rating	Description
AA A BBB	Investment Grade
BB B	Speculative Grade

ActewAGL has calculated indicative credit ratings for the gas network business over the period of the next Access Arrangement based on the outcomes and assumptions in the draft decision. Deloitte has reviewed the model and has concluded:

> Based on the analysis in the Final Model using the S&P 2003 credit ratings criteria the indicative credit ratings over the five years ending 30 June 2010 are below investment grade. (Deloitte 2004)

This outcome clearly does not recognise ActewAGL's legitimate business interests.

The financial viability and indicative credit rating ratios calculated based on the draft decision regulatory outcomes and assumptions are shown in the Table A1.2 below.

[24] Office of the Regulator-General, Victoria "Electricity Distribution Price Determination 2001-05: Volume 1 Statement of Purpose and Reasons", September 2000, page 164

Table A1.2 Credit rating based on draft decision outcomes and assumptions

	Weighting	2005	2006	2007	2008	2009	2010
EBIT interest coverage							
Value		1.59	1.53	1.49	1.51	1.46	1.44
Standard & Poor's US-Utilities (2003) rating	20%	BB	BB	BB	BB	BB	BB
Funds from operations (FFO) interest coverage							
Value		1.11	1.11	1.10	1.07	1.04	1.03
Standard & Poor's US-Utilities (2003) rating	20%	B	B	B	B	B	B
Return on common equity							
Value		4.5%	4.02%	3.69%	3.87%	3.48%	3.36%
Standard & Poor's US-Utilities (2003) rating	20%	BB	B	B	B	B	B
Funds from operations (FFO)/total debt							
Value		8%	8%	8%	8%	7%	7%
Standard & Poor's US-Utilities (2003) rating	20%	B	B	B	B	B	B
Total debt/capital							
Value		60%	60%	60%	60%	60%	60%
Standard & Poor's US-Utilities (2003) rating	20%	BBB	BBB	BBB	BBB	BBB	BBB
Overall rating							
Weighted average score[1]		5.8	5.6	5.6	5.6	5.6	5.6
Standard & Poor's US-Utilities (2003) rating	**100%**	**B**	**B**	**B**	**B**	**B**	**B**

1. The overall average is based on a score allocated for each credit rating, which is then averaged across all the ratios, assuming each ratio is rated equally.

The level of debt used in the ActewAGL model to determine credit rating influences the outcomes considerably. The scenario above is based on a gearing of 60%, consistent with the WACC assumptions. Deloitte states:

> The former Office of the Regulator-General, Victoria prescribed the following when undertaking financial viability analysis:
>
> - use the forecast regulatory asset value
> - the benchmark capital structure used in the regulatory WACC should be used in the financial viability analysis
> - annual interest costs are assumed to be the same as those used in determining the regulatory WACC
> - all other costs and revenues should be consistent with those from the regulatory decision.

However, should the gearing ratio of ActewAGL's joint venture partners ACTEW and AGL of 34.7% be used, the indicative credit ratings increase but continue to show a

rating of speculative grade for 3 of the 5 ½ years of the access period. The indicative credit ratings determined based on the Commission's draft decision, adjusted to use a gearing of 34.7% are summarised in Table A1.3 below.

Table A1.3 Credit rating based on draft decision outcomes and actual gearing

	Weighting	2005	2006	2007	2008	2009	2010
EBIT interest coverage	20%	BBB	BBB	BBB	BBB	BBB	BBB
Funds from operations (FFO) interest coverage	20%	BB	BB	BB	BB	BB	BB
Return on common equity	20%	BB	BB	B	BB	B	B
Funds from operations (FFO)/total debt	20%	BBB	BBB	BBB	BBB	BBB	BBB
Total debt/capital	20%	AA	AA	AA	AA	AA	AA
Overall rating	**100%**	**BBB**	**BBB**	**BB**	**BBB**	**BB**	**BB**

The initial ActewAGL proposed Access Arrangement outcomes and actual joint venture partners gearing results in the accepted rating of BBB in each of the years of the Access Arrangement. The summary of the credit ratings calculated is shown in Table A1.4 below.

Table A1.4 Credit rating based on ActewAGL's proposed Access Arrangement outcomes and actual gearing

	Weighting	2005	2006	2007	2008	2009	2010
EBIT interest coverage	20%	BBB	BBB	A	A	A	A
Funds from operations (FFO) interest coverage	20%	BB	BB	BB	BB	BBB	BBB
Return on common equity	20%	BB	BB	BB	BB	BB	BB
Funds from operations (FFO)/total debt	20%	BBB	BBB	A	A	A	A
Total debt/capital	20%	AA	AA	AA	AA	AA	AA
Overall rating	**100%**	**BBB**	**BBB**	**BBB**	**BBB**	**BBB**	**BBB**

The draft decision, even when adjusted to reflect actual rather than regulatory gearing, does not provide an investment grade credit rating. The ActewAGL proposed Access Arrangement provided an outcome closer to the appropriate outcome for distribution businesses. This analysis of the overall outcome of the draft decision provides further evidence that the draft decision package would not allow for the legitimate business interests of ActewAGL.

A2 SAFETY AND SERVICE STANDARDS – IMPACTS OF COST REDUCTIONS

Monitoring and Integrity

Introduction

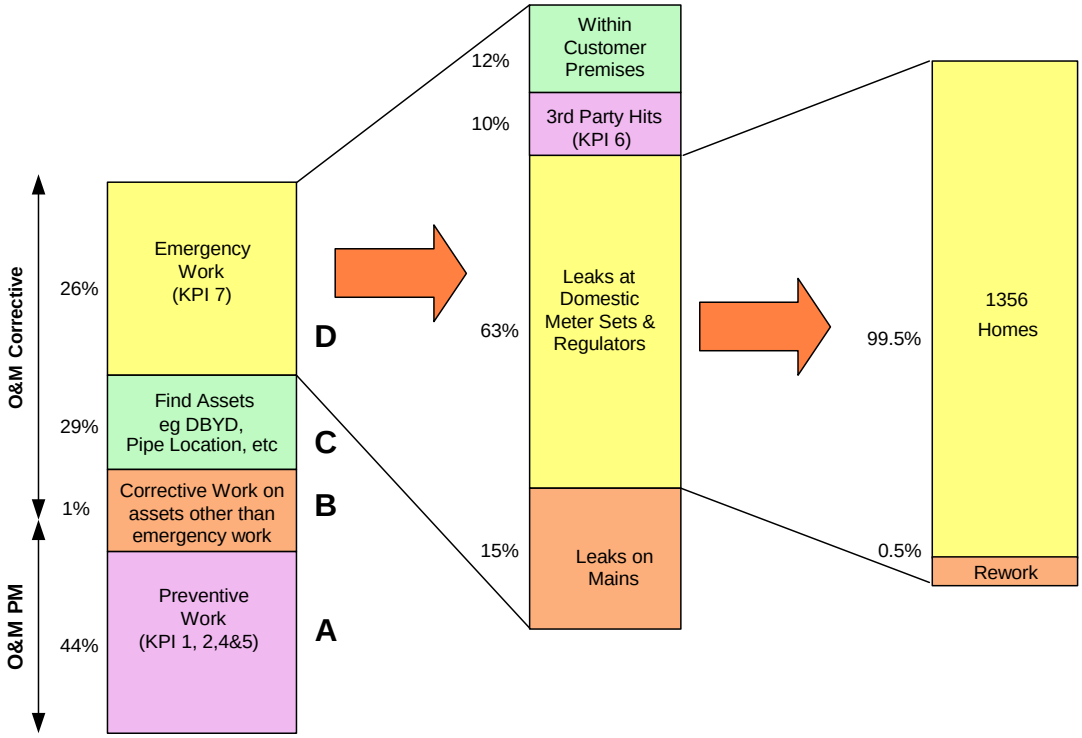
The allowed non-capital costs outlined in the draft decision on the ActewAGL Access Arrangement fall short of the level required to deliver services efficiently and to acceptable safety and service standards.

ActewAGL engages Agility to manage the distribution network with a primary obligation being to ensure the safe and reliable supply of gas to all customers as outlined in section 8.1 of the Gas Code.

The complexity of the networks increases each year with the growth of domestic and industrial customers and the amount of gas used.

In addition, underground systems belonging to other utilities such as ACTEW (water and wastewater), ActewAGL (electricity), Telstra, Optus, TransACT, Defence Agency and Local/Federal Government are near gas mains. Increasing growth in this infrastructure also adds complexity to the ongoing maintenance of the network.

The following figure shows the breakdown of work for ActewAGL for 2003/04.



To deliver the work volumes and mixes as outlined above and to ensure the integrity of the network is maintained to safe and reliable supply levels the following methods are utilised.

Emergency Work - Receipt and Management of Incidents

Incidents requiring emergency response do occur, despite extensive preventative maintenance and education programs. It is then that Agility, in conjunction with emergency services puts into action emergency planning, personnel and equipment. To facilitate this Agility has adopted and applies a program of communication management, response plans, documentation of incidents, and incident debriefing. To ensure this program is effective Agility proactively manages resource-planning, liaison with other authorities and utilities, and training and simulations.

In cases where the emergency is classified as major the escalation process adopted brings into the process the ActewAGL emergency management plans and application of an ActewAGL emergency centre. There are two centres with radio communication facilities that in an emergency are used as control points.

Within the ACT and Queanbeyan regions a response plan which delivers a higher level of service than that achieved by other gas utilities in other states of Australia has been applied.

Planned/Preventative and Corrective Maintenance

The ActewAGL gas network is maintained in accordance with applicable industry codes and best engineering practice. The maintenance planning section formulates maintenance philosophies and strategies in line with safety analysis, condition based and time based criteria. The maintenance work is assessed and categorised into two programs, planned/preventative maintenance and corrective maintenance. The maintenance programs are managed through the generation of service orders. These service orders are generated, scheduled and dispatched through a works order system called "GASS".

Surveillance of the Network

To ensure a reliable supply of natural gas, the entire distribution system is continuously checked automatically and by manual inspection. Whilst gas flow and pressure are monitored by control centres, routine programs and surveys are utilised to maintain the system. Agility undertakes pipeline patrols, leakage surveys, cathodic protection surveys and information services. The programs and surveys are managed through the generation of service orders using time-based criteria, which form part of the preventative maintenance plan.

In conjunction with this ActewAGL subscribes to a non profit organisation which promotes a asset location program "Dial Before You Dig "amongst the utilities, excavation and construction industries. Agility undertakes sites visits marking the locations of mains prior to excavation by the inquiring party. The location of services undertaken in the ACT and Queanbeyan regions is a higher level of service than that adopted by other gas utilities in other states of Australia.

Impacts of Allowed Opex

As outlined in section 3.5.3 of the draft decision the Commission clearly indicated its requirement to maintain the current service standards.

If allowed non-capital costs are reduced by $0.9m in 2005, 12% below the efficient levels proposed by ActewAGL, the current service standards will be placed at risk. Currently ActewAGL provides a high level of service expected by end users and the community.

The only logical scope for cost reduction is to reduce the amount of preventive work ActewAGL does in finding and marking the location of the gas asset to reduce third party interference. This however would expose the network to greater risk through excavations taking place around the assets. The third party undertaking these excavations would have to assess the location and determine where it was safe to dig.

The other main areas of service that will be impacted by reduced non-capital costs are emergency work and planned and preventative maintenance.

Emergency Work

As indicated, this area is 26% of the current workload and a reduction of Opex will increase the number of third party interferences. Benchmarking data shows a probable increase of **200** to **300** percent. The ability of ActewAGL to maintain its perfect response time KPI of 100% of all emergencies responded within 60 minutes will be greatly impacted. With the current resources it is expected that this will drop to approximately 95 percent in line with the rest of the industry.

Community expectations will have to be lowered. This will place both the network infrastructure and the public to higher risk exposure, through an increase probability of an incident occurring as a result of this additional number of incidents and the corresponding response time.

Planned and Preventative Maintenance

Additional emergency response resources have a direct impact on the capacity to deliver against the planned and preventative maintenance schedules. A reduction would result in a move to a 'fix it when it fails' philosophy, away from the current 'planned' program approach, based on proven risk management methodologies. Extending maintenance periods raises the probability of equipment failure, again exposing the network infrastructure and the public to higher risk. Consequences could be increased frequency of supply outages or the release of uncontrolled gas through equipment failure.

A3 ACT GOVERNMENT PRESS RELEASE

254/04 27 June 2004

GOVERNMENT LAUNCHES PILOT 'WATER TUNE-UP' PROGRAM AND NEW RAINWATER TANK REBATE SCHEME

Chief Minister and Minister for the Environment Jon Stanhope today announced as part of the implementation of the Think water, act water strategy, a pilot Water Tune-Up program would be initiated by Environment ACT and ACTEW to help Canberrans reduce their water use.

"The Think water, act water strategy intends to reduce Canberra's water consumption by 12% by 2013 and 25% by 2023," said Mr Stanhope.

"To achieve these results, the Canberra community has to take action to reduce their water use and the Government is committed to helping them.

"I am pleased to announce that the Government, together with ACTEW, is about to implement a pilot water tune-up program to help our community use water more efficiently.

"As part of the pilot program, 225 households will be randomly selected from the ACTEW customer database and offered the opportunity to participate in the program.

"Participants will receive a visit from a trained, licensed plumber, who will demonstrate ways they can use less water.

"A triple-A showerhead will be installed as well as flow-regulators on both the kitchen and bathroom basin taps. In addition, two washers will be supplied if there are any leaking taps," said Mr Stanhope.

Once complete, the plumber will supply a report outlining the current water usage and estimating how much should be saved with the tune-up.

"In addition, the report will provide some hints and tips to further reduce water consumption in the house and garden.

"Following a successful pilot program, we will consider a similar program available to the entire community supported and partly-subsidised by the ACT Government," said Mr Stanhope.

The ACT has had a rainwater tank rebate scheme since 1997. The Think water, act water strategy promoted a new scheme to further encourage Canberrans to install rainwater tanks.

"I am pleased to announce that the new scheme will provide a wider range of rebates for the installation of rainwater tanks," said Mr Stanhope.

Funding was made available under the Third Appropriation to provide the following rebates:

* Tanks 2000 - 3999 litres - $150

* Tanks 4000 - 8999 litres - $300

* Tanks larger than 9000 litres - $400

* Connection to laundry or toilet - an additional $150

"The Think water, act water strategy provides a framework for a partnership between the community and the government in managing, using and conserving the water resources of the region.

"These are the first of many initiatives to be announced over the coming months to implement the strategy for the long-term benefit of our entire community," said Mr Stanhope.

The pilot water tune-up program is completely funded by the ACT Government and will run until September.

The new rainwater tank rebate scheme will commence in July.

Statement Ends

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