



ICRC

independent competition and regulatory commission

Draft Decision

**Review of access arrangement for
ActewAGL natural gas system in
ACT, Queanbeyan and Yarrowlumla**

July 2004

The Independent Competition and Regulatory Commission (the commission) was established by the *Independent Competition and Regulatory Commission Act 1997* to determine prices for regulated industries, advise government about industry matters, advise on access to infrastructure and determine access disputes. The commission also has responsibilities under the Act for determining competitive neutrality complaints and providing advice about other government-regulated activities.

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Foreword

The Independent Competition and Regulatory Commission (the commission) is undertaking a review of ActewAGL's proposed revisions to the access arrangement governing third-party access to the natural gas distribution system in the Australian Capital Territory, Queanbeyan and Yarrowlunla. Among other things, the access arrangement sets out the benchmark tariffs to be paid to transport gas throughout ActewAGL's distribution system.

The review is required to be conducted in accordance with the National Third Party Access Code for Natural Gas Pipeline Systems (the Code).

In January 2001, the commission approved ActewAGL's proposed access arrangement, which came into effect on 1 February 2001. It was envisaged that the revisions to the access arrangement would commence on 1 July 2004 ('revisions commencement date'). ActewAGL was required to submit its proposed revisions to the access arrangement together with the applicable access arrangement information by 30 June 2003 ('revisions submission date'). However, ActewAGL sought from the commission an extension to the revisions submission date, which the commission subsequently granted.

The proposed access arrangement now being reviewed by the commission will, once approved, replace the existing access arrangement.

Proposed timetable for the review

The process of review required by the Code is transparent and designed to facilitate wider community and customer involvement and input. To this end, the commission will provide every opportunity for the community to be informed on all aspects of the review.

The commission proposes to adopt the following process for this review.

<i>Milestone</i>	<i>Date</i>
Issues paper released	Friday, 27 February 2004
Submissions on the issues paper due	Thursday, 8 April 2004
Draft decision	Monday, 19 July 2004
Submissions on the draft decision due	Friday, 13 August 2004
Release of the final decision	Friday, 15 October 2004
Release of final approval	Friday, 19 November 2004

This draft decision is the second step in the public consultation and information process.

The commission is seeking to encourage submissions and community views on all aspects of the review, including prices, service quality and reliability.

Submissions can be made on any aspect of the proposed access arrangement or this draft decision. There will also be a public hearing at which parties seeking to have their views considered will be able to present those views and hear the comments and arguments advanced by other parties with an interest in the review.

Those intending to make a submission should be aware that the commission publishes all submissions, unless there is a specific claim for information to be treated as confidential and the commission agrees with that claim. Submissions are published on the commission's website and are available for scrutiny at the commission's offices.

For further information about making a submission or about the review in general please contact Ian Primrose, Chief Executive Officer, on 6205 0799 or by fax on 6207 5887.

Paul Baxter
Senior Commissioner
July 2004

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Executive summary

This executive summary is provided to assist interested parties and other readers of the commission's detailed reasons for its draft decision. It summarises the commission's draft decision, the reasons underlying the draft decision, and the analysis applied in reaching the commission's assessment of ActewAGL's proposed access arrangement. The summary is not a substitute for, and does not form any part of, the commission's draft decision.

Introduction

In December 2003, ActewAGL submitted to the commission its proposed revisions to the access arrangement relating to the natural gas distribution system in the ACT, Queanbeyan and Yarrowlumla. The access arrangement describes the terms and conditions under which ActewAGL proposes to provide third parties with access to its natural gas distribution system.

This executive summary provides an overview of the commission's assessment of the proposed access arrangement, the draft decision, and the amendments the commission requires in order for the access arrangement to be approved. The proposed amendments, and reasons for the commission's draft decisions, are provided throughout this report, as required by section 7.7 of the National Third Party Access Code for Natural Gas Pipeline Systems (the Code).

The commission has noted particular matters upon which it seeks the views of interested parties to assist its final consideration of the proposed revisions to the access arrangement. The draft decision will be subject to a 25-day period of public comment. During that time, the commission will consult interested parties regarding the amendments prepared by the commission and any other comments or submissions made by interested parties.

The commission aims to reach a final decision by 19 November 2004. The commencement date for the revised access arrangement is proposed to be 1 January 2005.

The process and key issues considered in this draft decision

The commission has adopted a review process involving extensive consultation, research, and analysis. The draft decision aims to deliver a balanced outcome that has regard to the interest of stakeholders, the objectives of the Code, and the Code's specific requirements.

Services policy

The commission proposes to approve ActewAGL's services policy with the following amendment in relation to ActewAGL's proposal to cease to offer the meter data services as a reference service if the service becomes contestable.

To ensure that the event which triggers the withdrawal of this service as a reference service is clear and unambiguous, the commission proposes to require ActewAGL to include the following in the 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 Yarrowlunla by a person other than ActewAGL.

The commission also proposes to require ActewAGL to specify in the access arrangement that it will provide an estimate of the cost of processing a request for service on request by a prospective user.

In relation to 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 will seek the views of stakeholders on various aspects of the proposed services policy to assist in its final consideration.

Terms and conditions

The commission proposes to accept the general and specific terms and conditions proposed by ActewAGL.

However, the commission does not propose to approve without further justification the proposed revision in the curtailment of supply policy—namely, that ActewAGL will not be liable for damages incurred by the user arising from load shedding, and the user will be liable for and indemnify ActewAGL against any loss ActewAGL suffers, incurs or is liable for arising out of its load-shedding procedures. The commission proposes to 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. The commission is seeking the views of ActewAGL and users to assist it in its final consideration of this issue.

The commission proposes to accept ActewAGL's proposed arrangements for gas balancing and establishment of receipt points.

The commission also proposes to accept the proposed revisions to gas quality specifications, subject to a requirement 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.

Total revenue

Subject to the commission's proposal not to approve ActewAGL's proposal to obtain a return on working capital under the cost of service methodology, the commission considers that ActewAGL's proposed approach to calculating its total revenue requirement over the forthcoming access arrangement period meets the requirements of the Code in that it:

- adopts a cost of service methodology in accordance with section 8.4 of the Code
- represents a real basis for calculating total revenue (under which the capital base, depreciation and all costs and revenues are expressed in constant prices and a real rate of return is allowed) in accordance with section 8.5A of the Code.

The commission's assessment of ActewAGL's cost of service components, or 'building blocks', used in calculating its total revenue requirement for the forthcoming access arrangement period is provided in sections 7 to 11 of this draft decision.

The commission proposes to disallow a building-block cost component proposed by ActewAGL, in the form of a return on working capital component. The commission considers that ActewAGL's approach to modelling its total revenue requirements already provides a short-term financing allowance by assuming that cash inflows occur at the end of the year when they will actually be spread throughout the year, thereby giving ActewAGL a cash financial advantage during the year.

Operating cost forecasts

The commission considers that the commission's projection of non-capital costs set out in Table 1 would be those incurred by a prudent service provider operating efficiently in accordance with accepted and good industry practice, and to achieve the lowest sustainable cost of delivering ActewAGL's reference services.

Table 1 ActewAGL and commission forecasts of ActewAGL's non-capital costs, 2005–10

	\$ million, real 2004–05						
Year ending 30 June	2005	2006	2007	2008	2009	2010	Total
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

Capital expenditure and the capital base

Opening capital base

The commission has determined the opening capital base in accordance with the roll-forward methodology as provided for under sections 8.9 and 8.5A of the Code. The value of the capital base at the start of the forthcoming access arrangement period is \$225.9 million at 30 June 2004.

Roll-forward over forthcoming access arrangement period

The commission determination of efficient capital expenditure has resulted in a proposed reduction of 2.8 per cent to ActewAGL's forward-looking capital expenditure program. Table 2 below sets out the commission's roll-forward of the opening capital base over the forthcoming access arrangement period.

The commission's adjustments to ActewAGL's forward-looking capital expenditure program have been based on the unit costs provided by its consultants, McLennan Magasanik Associates Pty Ltd (MMA). The commission considers that the forward-looking capital program is now aligned with the tests set out in section 8.16 of the Code.

Table 2 Commission's roll-forward of the capital base, 2004–10

Year ending 30 June	\$ million, nominal					
	2005	2006	2007	2008	2009	2010
Opening balance	225.9	236.5	244.2	251.9	260.2	271.7
Plus capital expenditure	12.2	9.8	9.4	8.9	12.3	8.1
Less depreciation	7.3	8.1	8.6	8.3	8.7	9.0
Less disposals	0.05	0.05	0.05	0.05	0.06	0.06
Plus indexation	5.8	6.0	7.0	7.7	8.0	8.3
Roll-forward amount	236.5	244.2	251.9	260.2	271.7	279.0

Demand forecasts

Customer numbers

The commission considered forecasts of customer numbers as developed by its consultants, MMA, against those forecast by ActewAGL (ActewAGL revised its forecasts from those it originally submitted in December 2003).

The MMA and ActewAGL forecasts have similar growth rates (3.2 per cent compared with 3.3 per cent), the key difference being the 2004 starting point. The commission proposes to accept the ActewAGL revised forecasts in its draft decision but will use an updated 2004 residential customer number in its final decision, together with the agreed ActewAGL growth rate.

The commission accepts ActewAGL's business customer numbers as best estimates arrived at on a reasonable basis.

Customer volumes

The commission accepts MMA's recommendation that ActewAGL's revised forecasts of customer usage volumes are not best estimates arrived at on a reasonable basis and proposes to require that ActewAGL adjust its forecasts accordingly.

The commission has used the forecasts in Table 3 in its draft decision.

Table 3 Commission demand forecasts, 2004–10

Year ending 30 June	2004	2005	2006	2007	2008	2009	2010
Number of customers							
Tariff customers	96320	100328	103824	107188	110432	113570	116613
Contract customers	38	39	39	39	39	39	39
Total customers	96358	100367	103863	107227	110471	113609	116652
Volumes							
Tariff (TJ)	5996	6198	6371	6534	6692	6847	6999
Contract (MDQ)	5479	5696	5613	5531	5447	5365	5282

The commission has adjusted the total tariff volumes provided by MMA to reflect the customer number figures provided by ActewAGL, which have been adopted by the commission. The commission has used the per residential tariff customer volume numbers provided by MMA and multiplied those volumes by ActewAGL's customer numbers to determine an adjusted tariff volume.

Cost of capital

The Code requires the commission to determine a rate of return on capital which is commensurate with prevailing conditions in the market for funds and the risk involved in delivering the reference service. The commission has set the rate of return on the basis of a pre-tax real weighted average cost of capital (WACC) approach. The parameters used by the commission, and the rate of return set for the purposes of this draft decision, are shown in Table 4 below. The WACC approach and parameters input to the WACC formula were chosen after consideration of the submissions received from ActewAGL and a review of recent regulatory decisions within Australia.

The pre-tax real WACC calculated by the commission is 6.82 per cent. This is the commission's draft position on the rate of return. Some key parameters will change between this draft decision and the final decision. The commission will use an updated rate of return to reflect current market conditions, including inflation and the risk-free rate, at the time the final decision is made.

In addition to listing the commission's preferred values for this review, Table 4 below also lists ActewAGL's proposed rate of return parameters, updated for the most recent information on the risk-free rate.

Table 4 Parameters used by ActewAGL and the commission in calculating WACC

Parameter	ActewAGL's proposal (updated)	Commission's value
Risk-free rate	5.9%	5.9%
CPI	2.6%	2.6%
Real risk-free rate	3.2%	3.2%
Market risk premium	6.5–7.0%	6.0%
Debt margin	1.43%	1.245%
Gearing	60%	60%
Gamma	0.40	0.50
Asset beta	–	0.40
Debt beta	0.00–0.06	0.06
Tax rate	30%	30%
Equity beta (calculated)	0.98–1.09	0.90
WACC (post-tax nominal)	7.18–7.62%	6.73%
WACC (pre-tax nominal)	10.26–10.89%	9.62%
WACC (pre-tax real)	7.46–8.07%	6.82%

Reference tariffs and reference tariff policy

The commission's draft decision sets out a price path for ActewAGL's reference tariffs for the forthcoming access arrangement period (anticipated to be 1 January 2005 to 30 June 2010).

The total revenue requirement determined by the commission under the cost of service methodology in accordance with the principles and procedures discussed in this draft decision represents an approximate 10.5 per cent reduction on the total revenue requirement proposed by ActewAGL over the forthcoming access arrangement period.

The total revenues proposed by ActewAGL compared with those determined by the commission are shown in Table 5 below.

Table 5 Total revenue requirement, 2005–2010

Year ending 30 June	\$ million, real 2004–05					
	2005	2006	2007	2008	2009	2010
ActewAGL proposal	39.7	40.7	41.3	41.0	41.4	41.5
Commission determination	35.4	36.3	36.9	36.7	37.2	37.4
Reduction in total revenue requirement	4.3	4.4	4.4	4.3	4.2	4.1

The primary factor driving the difference between the ActewAGL proposal and the commission’s draft determination is the commission’s use of a lower rate of return than that proposed by ActewAGL. ActewAGL had proposed a rate of return of 7.9 per cent pre-tax real whereas the commission has used a rate of 6.82 per cent pre-tax real.

The commission has also considered as prudent a lower level of non-capital costs to that projected by ActewAGL. This is a significant factor in explaining the difference in revenue projection in the first three years of the access arrangement. Given the reduced total revenue requirement determined by the commission, ActewAGL is to amend its proposed CPI-related price path mechanism so that the amended mechanism is designed to recover not more than revised total revenue requirement.

ActewAGL’s proposed revisions to the access arrangement defined five categories of pass-through event:

- capital cost events
- change in tax events
- regulatory events
- insurance events
- unforeseen external events.

The commission considers that these broadly defined pass-through provisions may undermine incentives to reduce costs, where such incentives are encouraged by the general nature of the price path mechanism proposed by ActewAGL.

On this basis, the commission proposes not to approve the additional pass-through provisions to those already applying under the 2001 access arrangement. In the case of major unexpected events that might not be dealt with under the revised pass-through provisions, the commission notes that ActewAGL would still have recourse to the general access arrangement revision process contained in section 2 of the Code.

The commission does not propose to require the establishment of a formal link between tariffs and service standards in this access arrangement. However, during the forthcoming access arrangement period the commission proposes to work with ActewAGL and interested persons towards the development of a suitable adjustment mechanism for the subsequent access arrangement period.

The commission considers that the fixed principles proposed by ActewAGL are consistent with the Code. However, because the principles as specified in the proposed access arrangement are incomplete, in that ActewAGL has not proposed a fixed period to which the fixed principles will apply, the commission proposes to require a fixed period to be specified in the access arrangement in order to be able to approve the fixed principles.

Extensions and expansions policy

The commission proposes to approve ActewAGL's proposed extensions and expansions policy, subject to the issue of 'significance' (where 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.

Capacity management, trading and queuing policies

The commission proposes to approve ActewAGL's proposed capacity management and queuing policies.

The commission proposes to require ActewAGL to amend its proposed trading policy by providing that it will take reasonable steps to respond to any urgent request for trade within two business days of receiving the request.

Term of access arrangement

ActewAGL has proposed a five-and-a-half-year access arrangement period from 1 January 2005 to 30 June 2010. The commission has considered whether any mechanism is needed to be included in the proposed revised access arrangement to address the risk that any forecasts on which the access arrangement is based may prove to be incorrect. The commission notes that the proposed term is not materially greater than five years, and considers that the level of uncertainty around ActewAGL's longer term operating and capital expenditure projections does not warrant a reduction in the term of the access arrangement.

The commission is also of the view that the pass-through events to be included in the access arrangement will assist in managing some of the risk associated with external events over this slightly longer period. In any event, ActewAGL is not precluded from utilising the general access arrangement revision process under section 2 of the Code in order to deal with the effects of major unforeseen events.

The commission therefore proposes to approve ActewAGL's proposal for a regulatory period from 1 January 2005 to 30 June 2010, with a revisions submission date of 30 June 2009.

1 Introduction

ActewAGL's natural gas distribution system in the Australian Capital Territory (ACT), Queanbeyan and Yarrowlumla is 'covered' under the National Third Party Access Code for Natural Gas Pipeline Systems (the Code). Accordingly, ActewAGL is required to submit, and have approved by the commission, an access arrangement that sets out the terms and conditions under which third-party users can obtain access to services provided by the system.

In January 2001, the commission approved ActewAGL's proposed access arrangement, which came into effect on 1 February 2001. It was envisaged that the revisions to the access arrangement would commence on 1 July 2004 ('revisions commencement date'). ActewAGL was required to submit its proposed revisions to the access arrangement together with the applicable access arrangement information by 30 June 2003 ('revisions submission date'). However, ActewAGL sought from the commission an extension to the revisions submission date, which the commission subsequently granted.

In December 2003 ActewAGL submitted to the commission proposed revisions to the 2001 access arrangement. Under the Code, the commission is required to decide whether or not to approve the proposed revisions. The revised access arrangement is proposed by ActewAGL to apply from 1 January 2005 to 30 June 2010.

1.1 The statutory framework

In making its decision whether or not to approve ActewAGL's proposed revisions, the commission will take into account, and have regard to, the matters it is required to take into account and have regard to under the provisions of the Code and the Gas Pipelines Access (ACT) Law. The Code and law apply in the ACT through the operation of the *Gas Pipelines Access Act 1998*. Under that Act, the commission is the relevant regulator in relation to ActewAGL's natural gas distribution system in the ACT, Queanbeyan and Yarrowlumla.

To the extent that the commission considers that the requirements of the *Independent Competition and Regulatory Commission Act 1997* (the ICRC

Act) and the *Utilities Act 2000* (the Utilities Act) are relevant to its decision whether to approve or not approve the proposed access arrangement, the commission will also take those requirements into account.

1.1.1 Requirements of the gas access regime and the Code

The Code establishes a national access regime for natural gas distribution and transmission pipeline systems. The Code applies to pipelines that are ‘covered’ under the Code. Pipelines that are not covered are not subject to the Code.

Service providers (owners and operators) of covered pipelines are required to lodge access arrangements with the relevant regulator—in this case, the commission—for approval. An access arrangement sets out the terms and conditions (including tariffs) under which the service provider will provide certain services to existing and prospective third-party users.

The Code is based around the principle that a service provider must define the benchmark services it will offer (‘reference services’) and the terms and conditions, including prices (‘reference tariffs’), that will apply to those services. The service provider and access seeker are free to agree to other tariffs and terms and conditions (with the exception of the queuing policy). However, in resolving disputes under the Code in relation to reference services an arbitrator must apply the provisions of the access arrangement, including the associated reference tariffs.

The Code sets out the detailed regulatory principles and processes that the commission must follow when assessing a proposed access arrangement and subsequent revisions. Under section 2.24 of the Code the commission may only approve a proposed access arrangement if it is satisfied the access arrangement contains the elements set out in sections 3.1 to 3.20 of the Code, including:

- a services policy
- a reference tariff and a reference tariff policy
- the terms and conditions of supply
- a capacity management policy

- a trading policy
- a queuing policy
- an extensions and expansions policy
- a revisions submission date and revisions commencement date.

Also under section 2.24 of the Code, in assessing a proposed access arrangement, the commission is required to take the following factors into account:

- 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
- any other matters that the relevant regulator considers are relevant.

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
- to provide an incentive to the service provider to reduce costs and to develop the market for reference and other services.

The commission is also required to follow the process set out in section 2 of the Code when deciding whether or not to approve proposed revisions. This is discussed in Section 1.2 below.

1.1.2 Other relevant legislation

As noted above, in making its decision whether or not to approve ActewAGL's proposed revisions, where relevant, the commission will also have regard to the Utilities Act and the ICRC Act.

The Utilities Act establishes a framework for regulating the provision of electricity, gas, water and sewerage services in the ACT, including licensing requirements, industry codes of practice and approval of various contracts. The Utilities Act also enables the commission to monitor and report on utilities' compliance with licence conditions, including that of ActewAGL's gas distribution network.

The ICRC Act establishes the commission and confers on it functions including determining prices for regulated industries, advising government about industry matters, advising on access to infrastructure and determining access disputes. The commission also has responsibilities under the ICRC Act for determining competitive neutrality complaints and providing advice about other government-regulated activities.

The commission seeks to ensure that regulation is cost-effective, transparent, accountable, applied consistently and balanced between the interests of customers and the regulated businesses. Additionally, regulated prices should aim to achieve economic efficiency, revenue sufficiency and equity. These objectives are consistent with those of the Code.

1.2 The review process

The Code sets out the process the commission is required to follow in deciding whether or not to approve the proposed revisions (sections 2.28 to 2.48). This includes requirements that the commission:

- after receiving a proposed revision, informs parties it believes have an interest in the matter and publishes a notice in a national daily newspaper which describes the covered pipeline, states how copies of the proposed revisions may be obtained, and requests submissions by a specified date
- after considering submissions received, issues a draft decision which either proposes to approve the revisions to the access arrangement, or proposes not to approve the revisions and provides reasons why (and, if the revisions have been proposed by the service provider as required by the access arrangement, states the amendments (or nature of the amendments) required in order for the revisions to be approved)
- provides a copy of its draft decision to the service provider, any person who made a submission on the matter and any other person who requests a copy
- requests submissions on the draft decision and considers those submissions in making its final decision
- issues a final decision within six months of receiving proposed revisions to an access arrangement—the final decision is to either approve or not approve the revisions to the access arrangement; if the commission does not approve the revisions, the final decision must state the amendments (or nature of the amendments) which would have to be made to the revisions in order for the commission to approve them, and the date by which the amended revisions must be resubmitted to the commission¹

¹ The commission may extend the period of six months by periods of up to two months on one or more occasions provided it publishes in a national newspaper notice of the decision to increase the period. In order for the timeframes proposed in this review to be met, the commission has made such an extension. Notice of the decision to increase the period was published in the *Australian Financial Review* on 12 June 2004.

- provides a copy of its final decision to the service provider, any person who made a submission on the matter and any other person who requests a copy.

The commission advertised that it had received the proposed access arrangement revisions on 31 January 2004 in *The Canberra Times* and on 11 February 2004 in the *Australian Financial Review*. It released an issues paper on 27 February 2004, seeking submissions from interested parties on the issues raised or any other matters by 8 April 2004. The only submissions received by the commission are from ActewAGL (a list of submissions received is provided in Appendix 2).

The commission proposes the following timetable for the remainder of this review.

<i>Milestone</i>	<i>Date</i>
Release of the draft decision	Monday, 19 July 2004
Submissions on the draft decision due	Friday, 13 August 2004
Release of the final decision	Friday, 15 October 2004
Release of final approval	Friday, 19 November 2004

This draft decision represents the preliminary views of the commission on the issues it is required to consider in this review. These views have been presented by the commission to provide an opportunity for ActewAGL, customers and other interested parties to scrutinise and comment on the views expressed by the commission, and may change in light of any additional material which may come to the commission's attention after the publication of this draft decision.

The commission is seeking information and comments on any issues that interested parties consider are relevant to this draft decision. Where possible, submissions should include relevant data, documentation and explanations to support the views expressed. The commission particularly asks that those making submissions explain how their comments relate to the principles and objectives set out in the Code.

Anyone can make a submission to this review. It can be a short letter outlining views on a few aspects relevant to the review or a more substantial

document canvassing a wide range of issues. All submissions will be published on the commission's website except where the commission has agreed to treat a submission as confidential.

The due date for submissions in response to this draft decision is Friday 13 August 2004. Please send written submissions to the commission via mail or electronically via email or on a disk,

by mail to: PO Box 975
Civic Square
ACT 2608

in person to: Level 7, Eclipse House
197 London Circuit
Civic ACT

by email to: icrc@act.gov.au

The commission will consider any submissions received by 13 August 2004 and may, but is not obliged to, consider any submission received after this date.

1.2.1 Consultancies

The commission has engaged consultants to provide expert economic, technical, engineering and legal advice to assist it in the review of on the proposed revisions to the ActewAGL access arrangement.

PricewaterhouseCoopers is providing overall project management services and specialist economic, regulatory and financial advice to the commission.

McLennan Magasanik Associates (MMA) is providing independent analysis and advice, including by reviewing demand forecasts and ActewAGL's corporate cost allocation and ring fencing policies. MMA subcontracted Energy Consulting Group (ECG) to provide technical engineering analysis and advice, including by reviewing operating and capital expenditure programs.

Clayton Utz is providing legal services to the commission as required.

While the commission has appointed these consultants to provide independent advice and detailed analysis, the views and conclusions set out in this draft decision are those of the commission.

1.3 Outline of draft decision

This draft decision outlines the commission's process for conducting this review, and explains the context of the review and the key issues the commission has considered in making its draft decision. The issues covered by each section of this draft decision are as follows.

Section 2 sets out background information relating to ActewAGL, the proposed access arrangement and the gas industry.

Section 3 discusses the services to be offered under ActewAGL's proposed access arrangement.

Section 4 discusses the terms and conditions under which ActewAGL proposes to offer access to those services.

Section 5 provides an overview of the Code requirements in relation to the determination of reference tariffs. This overview provides the context for the commission's assessment of the methodology and cost components used by ActewAGL in calculating its proposed reference tariffs and in determining its reference tariff policy.

Section 6 discusses the proposed methodology for determining ActewAGL's total revenue requirement.

Section 7 sets out the commission's draft decision regarding ActewAGL's operating expenditure allowances to be applied over the forthcoming access arrangement period.

Section 8 sets out the commission's draft decision regarding ActewAGL's capital expenditure allowances to be applied over the forthcoming access arrangement period.

Section 9 sets out the commission's draft decision regarding forecast gas demand.

Section 10 sets out the commission's draft decision regarding the weighted average cost of capital to be applied to ActewAGL's capital base to determine the return on its investment in the network.

Section 11 brings together sections 6 to 10 and calculates ActewAGL's total revenue requirement. It also sets out the commission's draft decisions in relation to the reference tariff policy and fixed principles contained in ActewAGL's proposed access arrangement.

Section 12 sets out the commission's draft decision regarding ActewAGL's proposed extensions and expansions policy.

Section 13 sets out the commission's draft decision regarding ActewAGL's proposed queuing policy, capacity management policy and trading policy.

Section 14 sets out the commission's draft decision in relation to the term of the access arrangement.

2 Background to the ACT gas market and ActewAGL's proposed access arrangement

2.1 ActewAGL and the ACT gas market

Prior to 2000, AGL Gas Company (ACT) Limited was the monopoly supplier of gas in the ACT. In November 2000 ACTEW Corporation and AGL Limited entered into a joint venture arrangement. This followed the ACT Legislative Assembly's decision to pass the *ACTEW/AGL Partnership Facilitation Act 2000* in March 2000.

The joint venture included the amalgamation of ACTEW Corporation's ACT electricity network and retail operations, and AGL's ACT gas network and retailer operations, and gas network operations in Queanbeyan and Yarrowlumla.

Under the joint venture the two distribution network businesses were combined as ActewAGL Distribution (referred to as 'ActewAGL' in this draft decision) on 3 October 2000. At this time operation and management of the network was contracted out to Agility (a wholly owned subsidiary of AGL).

2.2 Overview of ActewAGL proposed access arrangement

ActewAGL's proposed access arrangement is broadly similar to its 2001 access arrangement in terms of approach and content. However, the proposed access arrangement reflects a number of amendments and changes to existing provisions reflecting, among other things, changes in the gas industry. Some of the factors cited by ActewAGL as influencing the changes include:

- Full retail contestability was introduced on 1 January 2002 and a number of new rules and codes now apply to the gas network.

- The ACT gas distribution system has been connected to the Eastern Gas Pipeline (EGP).
- ActewAGL has contracted out the operation and management of its network assets (to Agility).
- The size of the network and the number of customers have grown sharply.

The main features of the proposed access arrangement, the contents of which are determined by the Code, are discussed below. The following documents submitted by ActewAGL concerning its proposed revisions to the access arrangement may be found on the commission's website <www.icrc.act.gov.au>:

- Access Arrangement for ActewAGL Distribution in ACT, Queanbeyan and Yarrowlumla, December 2003
- Access Arrangement Information for ActewAGL Distribution System in ACT, Queanbeyan and Yarrowlumla, December 2003
- Access Arrangement Attachments
- Access Arrangement Attachment—Definitions.

2.2.1 Services to be offered

ActewAGL proposes to offer the same six reference services as in the 2001 access arrangement, with no change to the definitions of reference services. Negotiated services are also to be offered under the same definition as in the 2001 access arrangement. The reference services are:

- a tariff reference service for the transportation of gas to customers using less than 10 terajoules (TJ) per annum
- four reference services for the transportation of gas to contract customers (customers using more than 10 TJ per annum)
- a meter data service for the provision of meter reading and on-site data and communication equipment.

Non-reference services—including a (new) interconnection service and a negotiated service—are also offered.

2.2.2 Terms and conditions

The access arrangement includes a general set of terms and conditions to apply to all services the subject of the access arrangement, plus a specific set of terms and conditions that apply to the individual reference services.

ActewAGL has proposed a number of changes to the terms and conditions in the 2001 access arrangement, most of which set out in more detail the rights and obligations of ActewAGL and users. Other changes include:

- altered gas-balancing arrangements
- a different curtailment of supply policy
- revisions to the minimum gas quality specifications.

2.2.3 Operating expenditure

ActewAGL’s non-capital costs (operating expenditure) over the 2001 access arrangement period were higher than those forecast by the commission in its 2000 decision, as shown in Table 2.1.

Table 2.1 ActewAGL operating expenditure, actual and forecast, 2001–04

Year ending 30 June	\$ million, real 2004–05			
	2001	2002	2003	2004
Final decision	11.12	10.55	10.11	9.77
Actual	12.78	11.58	12.02	11.57
Difference	1.66	1.03	1.91	1.80

ActewAGL has attributed the increased expenditure to higher customer numbers than forecast, unexpected bushfire costs, higher insurance costs and costs associated with establishing the new asset management arrangement with Agility.

ActewAGL’s forecasts of operating expenditure over the forthcoming access arrangement period are shown in Table 2.2.

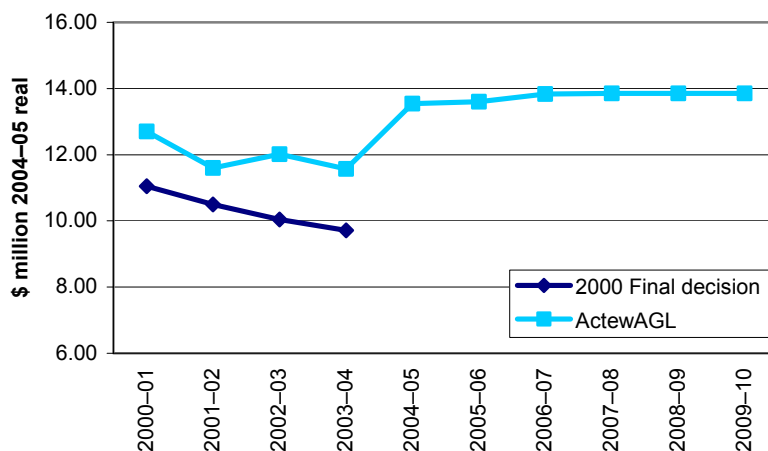
Table 2.2 ActewAGL operating expenditure, projected, 2004–10

Year ending 30 June	\$ million, real 2004–05						
	2004 (est)	2005	2006	2007	2008	2009	2010
Total controllable costs	10.90	12.04	12.09	12.30	12.31	12.30	12.29
Other allowable costs	0.67	1.50	1.51	1.53	1.54	1.55	1.56
Total non-capital costs	11.57	13.54	13.60	13.83	13.85	13.85	13.85

In ActewAGL’s submission, forecast expenditure grows in real terms each year and is higher than the actual expenditure during the 2001 access arrangement period. ActewAGL has indicated that its forecasts incorporate efficiency improvements of 1.5 per cent per annum over the forthcoming access arrangement period.

Figure 2.1 shows the trend in operating expenditure over the period.

Figure 2.1 ActewAGL operating expenditure, actual and projected, 2000–01 to 2009–10



2.2.4 Capital expenditure

In aggregate, ActewAGL's actual capital expenditure in the 2001 access arrangement period has been almost identical to that forecast by the commission in its 2000 final decision, although annual differences have occurred due to higher than expected capital expenditure arising from growth in customers numbers and a timing issue in relation to the EGP.

Table 2.3 ActewAGL capital expenditure, actual and forecast, 2001–04

Year ending 30 June	\$ million, real 2004–05				
	2001	2002	2003	2004	Total 2001–04
Final decision	19.42	8.71	8.26	6.92	43.31
Actual capital expenditure	14.21	11.84	9.80	7.65	43.50
Difference	-5.21	3.13	1.54	0.73	0.19

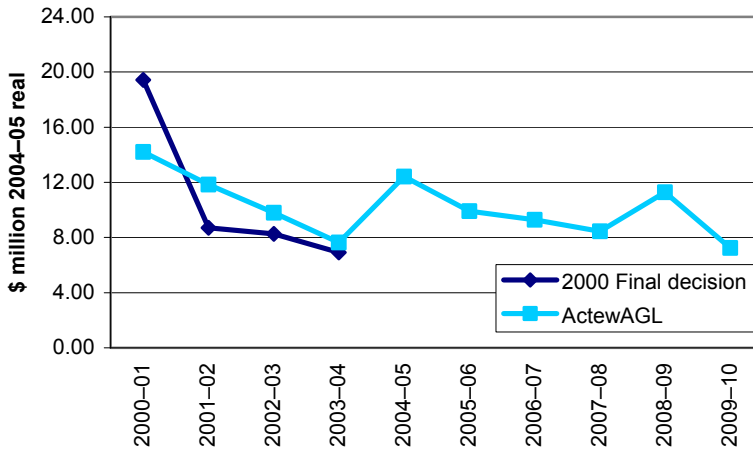
ActewAGL's forecast expenditure is set out in Table 2.4, and is marginally higher, on average, than expenditure in the period of the 2001 access arrangement. The increase in expenditure in 2009 is due to higher augmentation expenditure in that year, notably the expenditure associated with the construction of a trunk receiving station at Tuggeranong.

Table 2.4 ActewAGL capital expenditure, forecast, 2005–10

Year ending 30 June	\$ million, real 2004–05					
	2005	2006	2007	2008	2009	2010
Total distribution system	10.32	9.90	9.28	8.46	11.27	7.24
Total non-system expenditure	2.10	—	—	—	—	—
Total capital expenditure	12.42	9.90	9.28	8.46	11.27	7.24

Figure 2.2 shows the trend in capital expenditure over the period.

Figure 2.2 ActewAGL capital expenditure, actual and projected, 2000–01 to 2009–10



2.2.5 Demand forecasts

ActewAGL has provided the commission with the forecast of gas demand in the ACT, Queanbeyan and Yarrowlumla over the five-and-a-half-year period that underpins its proposed access arrangement. In making its draft decision, the commission has considered whether the forecasts represent best estimates arrived at on a reasonable basis. This issue is discussed further in Section 9 below. ActewAGL’s December 2003 forecasts are shown in Table 2.5.

Table 2.5 ActewAGL gas demand, forecast, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Residential tariff market (TJ)	4839	5003	5162	5317	5469	5617
Non-residential tariff market (TJ)	1473	1494	1515	1535	1556	1577
Contract market (MDQ)	5695	5604	5512	5419	5327	5235

In preparing its demand forecasts ActewAGL has made a number of assumptions including:

- average annual consumption by new residential customers will fall from 53.1 gigajoules (GJ) in 2002–03 to 47.6 GJ in 2009–10
- average consumption by existing non-residential (business tariff) customers will fall by 0.06 per cent per annum
- an annual weather-warming effect of 3.8 heating degree days (a measure of coldness of climate) will occur
- average consumption for contract customers will decline due to energy efficiency initiatives.

2.2.6 Cost of capital

In determining reference tariffs ActewAGL has adopted a pre-tax, real cost of capital of 7.9 per cent.

2.2.7 Reference tariffs and reference tariff policy

ActewAGL has determined proposed tariffs using a ‘building block’ methodology, where revenue to be generated from tariffs is equal to the sum of:

- efficient operating costs
- a return on the value of assets (the capital base)
- a return of the capital base (depreciation).

ActewAGL has also proposed to include separate building blocks for:

- working capital
- redundant capital.

The building-block components of the revenue requirement proposed by ActewAGL in December 2003 are shown in Table 2.6.

Table 2.6 ActewAGL revenue requirement, forecast, 2005–10

Year ending 30 June	\$ million, real 2004–05					
	2005	2006	2007	2008	2009	2010
Return on capital base	18.2	18.5	18.6	18.7	18.8	19.0
Depreciation	7.4	7.9	8.2	7.7	7.9	7.8
Redundant capital (accelerated depreciation)	0.1	0.1	0.1	0.1	0.1	0.1
Return on working capital	0.5	0.6	0.6	0.7	0.8	0.8
Non-capital costs	13.5	13.6	13.8	13.8	13.8	13.8
Total cost of services	39.7	40.7	41.3	41.0	41.4	41.5

Based on this revenue requirement, ActewAGL has proposed the following tariff arrangements:

- There will be changes in tariffs between 2003–04 and 2004–05. The tariffs, expressed in real 2003–04 terms, and changes are shown in Table 2.7.
- Revenue from the contract market will remain constant over the forthcoming access arrangement period. However, because ActewAGL has forecast volumes to fall, there will be annual real increases in tariffs of 1.0 per cent to 1.5 per cent.
- There will be no real change in charges for basic metering equipment and metering charges for tariff customers.
- There will be annual real increases of 0.3 per cent to 4 per cent for fixed and throughput charges for tariff customers.
- Ancillary charges (fees for processing requests for service, special meter reading, connection and disconnection) will not change in real terms.
- Overall, reference tariffs are to rise in real terms by 0.4 per cent per annum over the forthcoming access arrangement period.

Table 2.7 ActewAGL proposals for tariff changes, 2003–04 to 2004–05

Tariff	2003–04 \$	2004–05 \$	Change %
Contract charges			
Network unit charge (\$ per GJ per MDQ per annum)	210.237	211.547	0.6
Throughput charge (\$ per GJ)	4.608	3.100	-32.7
Capped rates (\$ per GJ)			
First 20 TJ	4.120	2.888	-29.9
Next 30 TJ	3.570	2.507	-29.8
All additional TJ	3.020	2.117	-29.9
On-site data and communication equipment (\$ per delivery station)	980.000	982.439	0.2
Meter reading charge (\$ per delivery station)	419.000	420.488	0.4
Tariff market charges			
Fixed charge (\$ per annum)	45.400	44.528	-1.9
Throughput charges (\$ per GJ)			
First 1.25 GJ per month or 3.75 GJ per qtr	5.940	5.826	-1.9
Next 1.5 GJ per month or 4.5 GJ per qtr	4.244	4.601	8.4
Next 5.75 GJ per month or 17.25 GJ per qtr	4.514	4.427	-1.9
Next 75 GJ per month or 225 GJ per qtr	4.691	4.311	-8.1
Next 333.5 GJ per month or 1000.5 GJ per qtr	3.856	3.782	-1.9
All additional GJ	2.701	2.649	-1.9
Meter provision charges			
Meters < 6m ³ per hour (\$ per annum)	21.550	18.862	-12.5
Meters > 6m ³ per hour (\$ per GJ)	0.167	0.146	-12.4
Meter reading charge (\$ per annum)			
Quarterly	3.730	3.500	-6.2
Monthly	35.600	33.406	-6.2
Ancillary service charges			
Request for service (rate per hour)	50.000	53.220	6.4
Special meter read	40.000	39.912	-0.2
Reconnection fee	n.a.	75.385	n.a.
Disconnection fee	100.000	102.000	2.0

The structure of tariffs for contract customers is relatively complex, but remains unchanged from the 2001 access arrangement.

ActewAGL is proposing to change the relative prices of the tariff blocks for tariff customers from the commencement of the forthcoming access arrangement period. The result of this change will be to increase relative

tariffs for those customers using around 5–25 GJ per quarter. The majority of residential customers fall into this usage range. ActewAGL has revised the step charges so they now decline steadily as throughput increases. In the 2001 access arrangement, the steps fell, then increased, then fell again.

ActewAGL is proposing that changes in the following cost items be passed through to users during the forthcoming access arrangement period:

- capital cost event—where capital expenditure on a project is greater than forecast, or where expenditure is incurred on a project not included in the capital expenditure forecast
- change in tax event—a change in tax or introduction or removal of a tax
- regulatory event—an event which imposes a change in minimum standards and substantially alters the way in which ActewAGL must provide services, a change in authorisation fees, or a change in ActewAGL’s obligations under the Code
- insurance event—including where insurance becomes more costly, unavailable, or available only on less favourable terms
- unforeseen external event—any unforeseen external event beyond ActewAGL’s control, including natural disasters such as bushfires and terrorism.

ActewAGL has not proposed a formal efficiency carryover mechanism, or any link between service standards and prices.

2.2.8 Extensions and expansions policy

ActewAGL is proposing that extensions and expansions of the network that have been included in the calculation of reference tariffs be part of the regulated pipeline, but that ActewAGL have the ability to elect that other extensions and expansions not be regulated. This differs from the 2001 access arrangement whereby all extensions and expansions (with the exception of duplicate pipelines) are automatically regulated.

2.2.9 Capacity management, trading and queuing policies

As per existing arrangements, ActewAGL proposes to manage capacity on a 'contract carriage' basis. Similarly, ActewAGL's policy for permitting trading of capacity is almost unchanged.

ActewAGL's general policy for access to capacity where constraints exist (the queuing policy) is more detailed than the existing provisions. It also proposes that persons seeking reference services have higher priority for accessing capacity than those seeking to connect an embedded network, and that short-term capacity seekers have a lower priority than those seeking other reference services.

2.2.10 Term of access arrangement

ActewAGL has proposed that it will submit revisions to the forthcoming access arrangement on 30 June 2009, to take effect on 1 July 2010.

This provides for a five-and-a-half-year access arrangement period and will give the commission 12 months to assess the revisions.

2.3 Retail gas prices and full retail contestability

The review being undertaken by the commission relates solely to the terms, conditions and tariffs associated with the provision of the service of transportation of gas on ActewAGL's distribution network (and associated services) as required under the Code. It therefore does not address the final retail gas price, which will also include:

- the cost of producing and processing natural gas
- costs of transporting gas from the processing plant through the gas transmission system to the inlet of the distribution system
- retail costs including those associated with arranging a retail supply, invoicing and billing customers, and maintaining a retail profit margin.

On 1 January 2002 the retail supply of gas in the ACT became fully contestable: that is, all customers became free to determine the supplier from which they purchase their natural gas, and the price at which it is bought.

In May 2001 the commission established a set of default retail gas tariffs. These default tariffs were set to protect small customers who may not benefit from the contestable market. They provide for real reductions in retail tariffs to all customers using less than 10 TJ per annum, and expired on 30 June 2004.

The cost of transporting gas through ActewAGL's distribution network represents approximately 50 per cent of the final retail cost of gas. The default retail tariffs reflect the network tariffs established under ActewAGL's 2001 access arrangement.

2.4 Review of the gas access regime

In 2003, the Australian Government referred the gas access regime (including the Code and relevant legislation) to the Productivity Commission for review.

The terms of reference for the inquiry require the Productivity Commission to report on:

- the benefits, costs and effects of the gas access regime, including its effect on investment in the sector and in upstream and downstream markets
- improvements to the gas access regime, its objectives and its application
- how the gas access regime might better facilitate a competitive market for energy services
- the appropriate consistency between the Code, the gas access regime and other regimes
- the institutional and decision-making arrangements under the gas access regime
- the appropriateness of including in the Code minimum (price and non-price) requirements for access to users.

The Productivity Commission released a draft report in December 2003.² Key points raised in the draft report include:

- Although competition in Australia’s natural gas sector is likely to strengthen, some form of a gas access regime is warranted during this transition.
- The current gas access regime is a form of cost-based price regulation with significant costs including deterring and distorting investment. It should therefore be invoked only where service providers have substantial market power.
- An alternative, less costly form of regulation is warranted. A monitoring option is proposed for inclusion in the regime, to apply in cases where access is likely to increase competition to a material degree and where price regulation is inappropriate.
- Other proposed changes to the regime include:
 - inserting an overarching objectives clause with a focus on promoting efficiency and removing inappropriate objectives
 - increasing the threshold test by which it is determined whether a pipeline should be ‘covered’—it is proposed that in future a pipeline will be liable to be covered and subject to third-party access where access to the pipeline is ‘likely to have the effect of increasing competition to a *material* degree’. This test is higher than the current threshold of ‘promoting competition’ and therefore fewer pipelines would be covered under the new test.
 - increasing the threshold test for the existing price regulation regime—to ‘where access is likely to have the effect of increasing competition to a *substantial* degree’, which is significantly higher than the threshold for the monitoring regime
 - tightening guidance for setting access arrangements and reference tariffs to reduce regulatory uncertainty.

² Productivity Commission, *Review of the Gas Access Regime*, Draft Report, Canberra, 2003.

The Productivity Commission also proposed that there be scope for the National Competition Council to provide a binding rule of ‘no coverage’ for 15 years, on a case-by-case basis, to reduce the potential risk of regulation of greenfield pipelines deterring investment. It would apply to proposed investments that are below the new coverage test.

The Productivity Commission submitted its final report to the Australian Government in June 2004. It will take some time for the government to consider the Productivity Commission’s recommendations, and for any resulting changes to the regime and Code to be implemented. Any changes are unlikely to be made until 2005 at the earliest, by which time ActewAGL’s proposed revisions will be in place.

In undertaking this review the commission is bound by the Code in its current form and is required to make its decision in accordance with the requirements of the Code. However, to the extent 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 those matters into account in accordance with section 2.24(g) of the Code. The commission would welcome the views of ActewAGL and users on this issue.

2.5 Proposals for a single national energy regulator

In June 2001 the Council of Australian Governments (COAG) established the Ministerial Council on Energy (MCE) to provide national oversight of policy development for Australia’s energy sector. In December 2003 the MCE published a report to COAG on the reform of energy markets, which aims to provide a basis for the development of an efficient national energy market.³

In relation to economic regulation, the MCE recognised the importance of effective economic regulation to successful market reform and the need for processes to be more efficient and streamlined, responsive to market developments and nationally consistent. To progress these objectives, the MCE proposed the establishment of two new statutory bodies to undertake

³ Ministerial Council on Energy, *Reform of Energy Markets, Report to the Council of Australian Governments*, 11 December 2003.

the tasks of rule making and market development, and network access regulation and market rule enforcement, respectively.

Under the MCE's proposals, an Australian Energy Market Commission (AEMC) was to be established by 1 July 2004, with the core functions of making rules (Code changes) and undertaking reviews, including all Code change and market development functions currently performed by the National Electricity Code Administrator, the National Gas Pipelines Advisory Committee and the Code Registrar. Legislation in the South Australian Parliament has been delayed, which will act to postpone the establishment of the AEMC.

The AEMC would initially focus on proposed changes to the National Electricity Code, and would take responsibility for the National Gas Code following MCE consideration of the Productivity Commission review of the National Gas Access Regime.

The second statutory body proposed by the MCE was the Australian Energy Regulator (AER), which was also to be established by 1 July 2004. This body would have initial responsibility for economic regulation of electricity wholesale and transmission networks and key rule-enforcement functions. Legislation has been passed establishing this entity and staff positions are currently being filled. The AER will exercise powers under an agreed new national energy legislative framework, including the National Electricity Law and National Electricity Code, and undertake the sector-specific regulatory functions of the Australian Competition and Consumer Commission (ACCC) and the National Electricity Code Administrator.

The AER's responsibilities will be extended to include gas transmission by 30 July 2005. Other regulatory responsibilities for gas will be determined by the MCE following the review of the National Gas Access Regime.

The MCE also agreed that the AER would be responsible for the regulation of distribution and retailing (other than retail pricing) following the development of a national framework for regulation of distribution and retailing activities. Work will commence on the framework in 2004 and the MCE will consider the outcome in 2005. The AER is proposed to assume responsibility for the regulation of distribution and retailing by 2006.

To the extent that the commission considers the establishment of the MCE to be relevant to its consideration of the proposed revisions to access

arrangement, it will take those matters into account in accordance with section 2.24(g) of the Code. The commission would welcome the views of ActewAGL and users on this issue.

3 Services policy

An important element of any access arrangement is the services to be provided to access seekers—including the bundle of services being purchased and the different types of services to be offered. These services need to be sufficiently well-defined so that access seekers know ‘what they are buying’, and so that a regulator can assess whether the tariffs for the services are reasonable.

3.1 Code requirements

Sections 3.1 and 3.2 of the Code require an access arrangement to include a services policy, which must include a description of the services that are to be made available to access seekers.

The policy must include a description of one or more services that are likely to be sought by a significant part of the market, and any service/s that the commission considers should be included in the services policy. These services are known as ‘reference services’ and attract a reference tariff. To the extent that is practicable and reasonable, an access seeker must be able to obtain a reference service which includes only those elements that the access seeker wishes to be included in the service, and a service provider must provide a separate tariff for an element of a service if requested by an access seeker.

A service provider may also offer a number of services that are not reference services. These are often known as ‘negotiated’ or ‘non-reference’ services.

3.2 2000 final decision

In its 2000 submission to the commission, ActewAGL proposed to offer a negotiated service and five reference services (a capacity reservation service, a managed capacity service, a throughput service, a multiple delivery point service and a tariff service).

In its 2000 final decision, the commission considered the appropriateness of ActewAGL offering:

- a partial use of assets reference service
- a summer tranche reference service
- a short-term requirements reference service for small and medium customers.

In relation to a partial use of assets reference service, the commission noted that no submissions commented on bypass opportunities, and that a lower 'bypass' price could not be known until the receipt point/load had been established. As partial use of assets cannot be a reference service, the commission did not require ActewAGL to provide a partial use of assets reference service, but did require that such a service should be specified as a negotiated service.

In relation to a summer tranche reference service, ActewAGL agreed to offer this service, and the commission required that it be included in the access arrangement.

In relation to a short-term requirements reference service for small and medium customers, the commission considered the industry orientation of ActewAGL's contract customers and found that the majority of volume was consumed by non-industrial customers. The commission considered it questionable whether these customers would require a short-term reference service. However, the commission considered that this service could benefit a future customer who may not have the power to obtain such a service from ActewAGL through negotiation.

While ActewAGL was of the view that few, if any, contract customers in the ACT would seek a short-term capacity reservation service, it indicated it was willing to offer such a service on the same terms as had been offered in New South Wales, covering small, medium and larger customers.

The commission therefore required ActewAGL, as part of its capacity reservation service, to provide the following capacity options in accordance with the terms and conditions set out in the final decision:

- (a) a summer tranche service
- (b) a short-term capacity service for small and medium customers
- (c) a short-term capacity service for larger customers.

It also required that partial use of assets be specified as a negotiated service.

In relation to interconnection, the commission required that ActewAGL amend its access arrangement by:

- (a) defining for prospective users the minimum engineering standards required for interconnection
- (b) specifying that ActewAGL will provide connection point facilities up to a ‘flanged connection valve’ as part of its network services
- (c) providing a detailed outline of the approval and time periods for an interconnection agreement.

3.3 ActewAGL proposal

3.3.1 Services to be offered

ActewAGL proposes to offer the same six reference services as in the 2001 access arrangement, with no change to the definitions of reference services. These are:

- a single ‘tariff’ reference service—the transportation of gas to customers using less than 10 TJ per annum
- the following ‘non-tariff’ reference services for the transportation of gas to contract customers (those using more than 10 TJ per annum)
 - capacity reservation service—a transportation service with charges determined on the basis of capacity. Under this service users may access additional short-term and summer capacity.

- managed capacity service—a transportation service with charges determined on the basis of the previous year’s maximum withdrawal
- throughput service—a transportation service with charges determined on the basis of throughput of gas
- multiple delivery point service—a transportation service for users with multiple delivery points
- a meter data service—a service for the provision of meter reading at a delivery point, and the provision of on-site data and communication equipment.

ActewAGL also proposes to offer non-reference services, including negotiated services, and an interconnection of embedded network service which provides for the establishment of a single delivery point from the network to an embedded network.

ActewAGL proposes that the partial use of the network non-reference service, which was separately identified in the 2001 access arrangement, be removed due to a lack of demand and because ActewAGL considers it is adequately covered by the definition of the negotiated service.

ActewAGL has proposed that the provision of non-tariff reference services to new delivery points be restricted to cases where upstream pressure is less than 1,050 kilopascals (kPa) and where the maximum daily quantity (MDQ) is at least 10 times the maximum hourly quantity (MHQ). This was not a feature of the 2001 access arrangement.

ActewAGL has also indicated that it will cease to offer the meter data service as a reference service if the service becomes contestable. This is consistent with the 2001 access arrangement.

3.3.2 Requests for services

ActewAGL is proposing some minor changes to the procedure for requests for service and connection to premises. These include more detailed requirements regarding ActewAGL’s obligations to respond to a request for services. ActewAGL is proposing a fee of \$60 plus \$60 per hour for this service.

3.4 Issues paper responses

3.4.1 Services to be offered

In its response to the commission's issues paper, ActewAGL has submitted that the services it proposes to offer are consistent with users' needs, and that existing services have met user needs during the 2001 access arrangement period. ActewAGL has stated it did not receive any comments or feedback on the need for different services.

As set out in Section 3.3.1 above, ActewAGL does not foresee any need for a 'partial use of network' service in the forthcoming access arrangement period. It submitted that in the event that a request did arise, the service could be requested as a 'negotiated service', which is broadly defined and would allow individual users to request a unique service where their needs were not met by a reference service.

ActewAGL considers the definitions of the six reference services and negotiated services have worked well throughout the 2001 access arrangement period, with no problems or adverse comments from users. ActewAGL is confident that the services are still sufficiently well defined, and the new non-reference service also meets the requirements of the Code by being clearly defined.

The commission's consultants raised with ActewAGL the issue of whether ancillary services should be reference services. ActewAGL has submitted that its decision not to include ancillary services as reference services is consistent with the Code, which requires services to be included if they are likely to be sought by a significant part of the market. ActewAGL has suggested that, in the past, ancillary services have been requested by a small proportion of the market, and there are no strong reasons to suggest that the requests are likely to increase substantially in the future.

ActewAGL has submitted that restricting provision of non-tariff reference services to new delivery points to situations where the MDQ is 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 to encourage efficient daily utilisation of network capacity and to allocate network charges according to the amount of capacity utilised. While MHQ is also an

important parameter in terms of network design and capacity utilisation, there is no direct incentive in the 2001 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 could be explored in the context of technical/operational demand management solutions or in the context of negotiated charges which were more reflective of network utilisation.

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

- encourages efficient network utilisation through promoting demand management measures and a cost of service approach
- is limited in its application to requests where the cost of providing the service is not reasonably reflected by an MDQ-based charge
- minimises the costs of implementing an incentive on hourly demand.

ActewAGL has submitted that the proposed restriction meets the requirements of section 2.24 of the Code, which 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.

In support of its proposal that it will cease to offer the meter data service as a reference service if the service becomes contestable, ActewAGL has submitted that, if these services become contestable, the market will impose controls on the provision of the service.

ActewAGL has also suggested that under the Code it may withdraw the meter data service as a service during the term of the access arrangement,

without submitting the access arrangement to the commission for approval and public consultation. ActewAGL has submitted that if an effective access arrangement contains a process governing what will happen on the occurrence of an event (such as clause 1.5 of Attachment 3F of the access arrangement), then if that event occurs, the process in the access arrangement will be triggered, but the access arrangement itself will not need to be ‘changed’ (requiring submission to a further process as set out in section 2 of the Code).

3.4.2 Requests for services

ActewAGL has submitted that the fee for request for service is reasonable. The existing fee of \$50 has not been adjusted for inflation since 2001. The proposed \$60 charge reflects the costs of processing a request, and annual increases during the forthcoming access arrangement period are kept in line with inflation using the escalation methodology specified for reference tariffs.

ActewAGL has submitted that a cap on the cost of the service is unreasonable as the costs of processing a request are likely to vary widely. However, it agreed it is reasonable to provide an estimate of the cost of processing a request should a customer seek such an estimate.

3.4.3 Service standards

In response to the question of whether current service standards meet users’ needs, ActewAGL has referred to a study it commissioned on customers’ willingness to pay for service standards for gas, electricity and water and wastewater.

ActewAGL has stated the survey results show that both residential and commercial customers value the reliability of the gas service provided by ActewAGL, and that customers rate highly both the standard of their gas supply and ActewAGL as a gas supplier. In relation to gas service reliability, as measured by the length and duration of outages, the study indicates ActewAGL’s service level is near the optimum, with reduced and increased levels of service both being less preferred to existing service levels. ActewAGL suggests the study results indicate that customers are willing to pay for existing service levels, and would not prefer a reduction in reliability in return for a discount in price.

ActewAGL has submitted that establishing a scheme to ensure that service standards do not drop below existing levels would require complex issues to be addressed, such as how to define and measure appropriate service standards at the start of the scheme and each subsequent access arrangement period, how to structure penalties and rewards, and how to deal with the impact of external events such as bushfires or third-party damage to the network. While it supports the concept of ensuring that service standards meet customer needs, ActewAGL is not convinced that a formal regulatory scheme is warranted, arguing that, in an increasingly competitive energy market, it has a strong commercial incentive to identify and respond to consumer preferences regarding service levels.

3.5 Consideration of issues

3.5.1 Services to be offered

The commission has not received any submissions from users of the network. There is no material before the commission to suggest that the services proposed by ActewAGL are not consistent with users' needs or are not sufficiently well defined, or that restrictions on the availability of reference services are not reasonable.

In its consideration of the services to be offered, the commission has drawn information from submissions in respect of the review process for the 2001 access arrangement. The commission considers that the information contained in these submission remains applicable in 2004 to the extent that there have been no material differences between the services to be offered and those offered in the 2001 access arrangement, and to the extent that the information contained in these submissions applies to the services proposed to be the subject of the access arrangement in the forthcoming access arrangement period.

As noted above, ActewAGL proposes to add a non-reference service: 'interconnection of embedded network service'.

In its 2000 final decision, the commission concluded that while the Code did not require interconnection to be a separate reference service, it may be necessary to specify technical and operational considerations in relation to interconnection. The commission also noted that under section 3.2(a) of the Code, the commission could require that interconnection be a reference

service if it believed the service would be sought by a significant part of the market.

ActewAGL considers that in the developing gas market an option for interconnection, not included in the 2001 access arrangement, should be covered. It has therefore been included as a non-reference service, with technical and operational conditions set out in Attachment 3G of the access arrangement. These conditions generally reflect the conditions set out in Part B of Schedule 2F of the 2001 access arrangement, with additional provisions relating to:

- modification of the delivery station, and hot tap connection to the network, required as a result of changes in flow
- a requirement for the embedded network operator to specify an annual quantity, MHQ and MDQ
- ActewAGL's maximum obligation to deliver gas to the delivery point
- provision, design, reading and commissioning/decommissioning of measuring equipment
- charges to be agreed between the embedded network operator and ActewAGL.

The commission has no material before it to suggest that interconnection is sought by any access seeker. Accordingly, the commission does not consider that interconnection is likely to be sought by a significant part of the market, and therefore is of the view that the interconnection of embedded network service should not be required to be a reference service.

As the terms and conditions generally reflect those set out in the 2001 access arrangement, and there is no material before the commission to suggest that those terms and conditions require amendment, the commission is also of the view that these terms and conditions are acceptable. However, the commission would welcome the views of network users on these matters.

ActewAGL has removed the partial use of the network non-reference service, due to a lack of user interest during the 2001 access arrangement period, arguing it is adequately covered by the definition of negotiated service. While a partial use of the network service was included in the 2001 access arrangement as a separate non-reference service, the commission's

2000 final decision stated this service should be specified as a negotiated service. The commission is satisfied that this continues to be an appropriate approach.

The commission has raised with ActewAGL the question of whether ancillary services, such as disconnection, reconnection and special meter reads, should be reference services. The commission notes that ancillary services are included as reference services in some access arrangements (such as Envestra, Multinet and TXU in Victoria) but not in others (such as AGLGN in New South Wales).

Under the Code, the key question is whether ancillary services are likely to be sought by a significant part of the market. While the commission recognises that ancillary services may not be sought by a significant part of the market (ActewAGL has indicated that in 2003 approximately 560 special meter readings and 150 disconnections were completed), it considers that ancillary services are a monopoly service. To the extent that users have difficulties in accessing these services it will in turn become difficult for users to provide the services to customers. Including ancillary services as reference services, and therefore excluding them from the total revenue requirement, means there is less need to be concerned with the ring fencing of costs of ancillary services, or whether the revenues received for ancillary services match the costs of providing these services.

The commission notes that AGLGN has included charges for ancillary services in its proposed access arrangement in New South Wales. AGLGN has also proposed that revenue forecast to be received for the provision of ancillary services be treated as a cost recovery and combined with operating and maintenance costs in the determination of total non-capital costs. On a balance of the above considerations the commission is not prepared to accept removal of ancillary services as reference services at this stage, without further justification from ActewAGL that such removal would be consistent with the principles and objectives of the Code. To assist the commission in its final consideration of this issue, the commission would welcome the views of ActewAGL and users on this issue.

ActewAGL has proposed that the provision of non-tariff reference services to new delivery points be restricted to cases where upstream pressure is less than 1,050 kPa and where the MDQ is at least 10 times the MHQ. AGLGN has also included such a provision in the access arrangement submitted to the Independent Pricing and Regulatory Tribunal (IPART) in New South Wales.

In the New South Wales gas market users are charged a premium on all gas consumed above the MDQ booked. The commission notes that in the New South Wales revision process a number of users have expressed concern that heavy penalties associated with under-booking supply provided a strong incentive for users to over-book supply.

While this may be an issue in New South Wales, where AGLGN offers a number of reference services, in the less complex market in the ACT this issue has not been brought to the commission's attention. However, the commission would be concerned if this change were accepted and ActewAGL subsequently sought revisions to introduce or, in the case where these charges already exist, increase any punitive measures for under-booking supply.

The commission considers that ActewAGL's proposal in relation to restrictions on the provision of non-tariff reference services to new delivery points is consistent with the requirements of the Code, and proposes to accept the proposed revisions. However, the commission would welcome comments from users on ActewAGL's proposed revisions.

To assist in its final consideration of this issue, the commission requests that ActewAGL and users provide information on the following matters in particular:

- the extent to which the restrictions on the provision of non-tariff reference services to new delivery points would apply to existing users
- whether any other access arrangements contain similar provisions
- whether '10 times' is the most appropriate ratio between MDQ and MHQ
- whether giving users the option to pay costs associated with hourly metering is a practical option.

In its issues paper, the commission noted that in considering ActewAGL's proposal to cease to offer the meter data services as a reference service if the service becomes contestable, it will review whether the Code permits a reference service to be withdrawn during an access arrangement period. The commission has sought legal advice on this issue. The commission's preliminary view is that it may approve an access arrangement which provides that a reference service will cease to be a reference service upon the

occurrence of events specified in the access arrangement. ActewAGL has submitted that:

- under the Code, it may withdraw the meter data service as a service during the term of the access arrangement without submitting the access arrangement to the commission for approval and public consultation
- if an effective access arrangement contains a process governing what will happen on the occurrence of an event (such as clause 1.5 of Attachment 3F of the access arrangement), then if that event occurs, the process in the access arrangement will be triggered, but the access arrangement itself will not need to be ‘changed’ (requiring submission to a further process as set out in section 2 of the Code).

ActewAGL considers that if these services become contestable, the market will impose controls on the provision of the service and that accordingly, at that time, it will cease to offer the meter data service as a reference service.

In this regard the commission notes that:

- Contract customers have already installed the facilities required to provide meter reading and on-site data collection services. Some larger tariff customers are also likely to have installed data loggers and communications facilities.
- While meter-reading and on-site data collection services would become contestable upon the commencement of a rule or other law or instrument which permits meter reading and on-site data collection services to be provided by third parties, network operators would continue to provide basic metering facilities (i.e. facilities other than the on-site data and communication equipment) at each site.
- Upon the commencement of a rule or other law or instrument which permits meter reading and on-site data collection services to be provided by third parties, while network operators (or their agents) are likely to continue to provide these services, third parties are also likely to commence providing those services, particularly as customers have already installed the necessary facilities.
- Draft rules have been prepared which contemplate the provision of meter reading and on-site data collection services by third parties (Rule 17 of the New South Wales and ACT Gas Retail Market Gas Retail Market

Business Rules, version 27). There is a reasonable prospect that the draft rules will commence during the forthcoming access arrangement period. Upon commencement, the rules will apply to ActewAGL.

Accordingly, the commission is satisfied that these services are likely to be contestable upon the commencement of any law, code or instrument which permits the provision of meter reading or on-site data and communication services by a person other than ActewAGL. The commission notes that in its 2000 decision it considered that a service should not be covered by the access arrangement when that service became contestable. The commission would welcome the views of ActewAGL and users on this issue.

3.5.2 Requests for services

The commission considers that the procedure for requests for service and connection to premises proposed by ActewAGL appears reasonable.

The commission accepts that a cap on the cost of processing a request may not be practical given that the complexity of processing individual requests may vary. However, the commission considers that the access arrangement should specify that ActewAGL will provide an estimate of the cost of processing a request for service on request by a prospective user. In its response to the commission's issues paper, ActewAGL has indicated it considers this approach is reasonable.

3.5.3 Service standards

In determining appropriate efficient costs of reference services, the commission is required to take into account the standard of service that will be provided. Service standards are an important driver of capital and operating expenditure programs. Further, the commission seeks to ensure service standards are maintained over the access arrangement period and do not diminish in favour of increasing profits.

ActewAGL's proposed revisions to the access arrangement refer to 'minimum network standards', which include external measures and standards imposed under a range of instruments including the Utilities Act, licence conditions, the Consumer Protection Code, ring fencing guidelines and other codes. ActewAGL is required to comply with these standards and to report annually to the commission on its compliance. In undertaking this

review the commission is bound by the Code, and is required to make its decision in accordance with the requirements of the Code. However, to the extent that the commission considers these external service standards to be relevant to its consideration of the proposed revisions to the access arrangement it will take those considerations into account in accordance with section 2.24(g) of the Code.

The Consumer Protection Code sets minimum customer service standards that ActewAGL must meet, below which service is considered unacceptable. To the extent that the standard of service demanded by customers exceeds those minimum standards, the Consumer Protection Code provides no incentive to meet those demands. There is also no obligation to ensure that where ActewAGL is exceeding the minimum standards, performance will not revert to the minimum standard. ActewAGL's current service standards in many cases exceed the minimum standards, and the commission does not believe that ActewAGL's cost forecasts are consistent with simply meeting the minimum standards. Customers may regard it as unsatisfactory if service levels fell to a point at which these standards were only just achieved.

A better basis for establishing current service levels may be the information on service levels achieved provided by ActewAGL in its annual performance and compliance reports to the commission, as required under the compliance and service standard monitoring and reporting process under the Utilities Act.

The information provided in these reports is:

- based on requirements set out in public documents such as the Utilities Act, the Consumer Protection Code and ActewAGL's licence
- publicly available
- subject to audit.

Data for 2001–02 and 2002–03 are now available to the commission, and the commission's report for 2001–02 has been released. While it is yet difficult to form a picture of ActewAGL's longer-term performance in respect of service standards, or trends in that performance, as information is collected over coming years the commission will be better placed to form a view on these matters.

The commission notes that ActewAGL recently completed a major study into consumer willingness to pay for service standards. This included existing and potential new/changed service standards in respect of water and sewerage, gas and electricity utility services in the ACT. The purpose of the study was to provide data and analysis to enable ActewAGL to assess appropriate customer service standards.

The commission notes that maintaining current levels of service standards would be consistent with the findings of the ‘willingness to pay’ study.

The relationship between service standards and formal tariff adjustments is discussed in Section 11.

The commission also notes that the ACT’s gas technical regulator (the ACT Planning and Land Authority) began reviewing network standards following the Canberra bushfires.

3.6 Draft decision

3.6.1 Services to be offered

The commission proposes to accept ActewAGL’s proposal to include the interconnection of embedded network service as a non-reference service, on the terms and conditions proposed by ActewAGL. There is no material before the commission which suggests that the services are likely to be sought by a significant part of the market. However, the commission would welcome the views of network users on this issue.

The commission considers that the partial use of the network service offered in the 2001 access arrangement would be adequately covered by the definition of a negotiated service.

In relation to ancillary services, the commission recognises that such services may not be sought by a significant part of the market. It also notes that collectively ancillary services are a monopoly service, and difficulties accessing these services might make it difficult for users to provide the services sought by their customers. On balance, given the information available to it at this stage, the commission considers it reasonable for these services to cease being treated as reference services, but would welcome the views of network users on this issue.

The commission proposes to accept ActewAGL's proposal to restrict the provision of non-tariff reference services to new delivery points to cases where upstream pressure is less than 1,050 kPa and where the MDQ is at least 10 times the MHQ. In the absence of feedback on this issue from users, the commission considers, for the purposes of this draft decision, the proposed limitations to be reasonable. However, the commission would welcome comments from users on ActewAGL's proposed revisions.

The commission proposes to accept ActewAGL's proposal to withdraw the meter data service as a reference service if the service becomes contestable. This is consistent with the 2001 access arrangement. To ensure that the event which triggers the withdrawal of this service as a reference service is clear and unambiguous, the commission proposes to require ActewAGL to include the following in the 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 Yarrowlunla by a person other than ActewAGL.

3.6.2 Requests for services

The commission proposes to require that the access arrangement specify that ActewAGL will provide an estimate of the cost of processing a request for service on request by a prospective user.

3.6.3 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.

This does not mean that if a single indicator falls slightly below the 2002–03 and 2003–04 levels the commission will regard ActewAGL as failing to maintain existing standards. The commission will have regard to the whole suite of indicators when reviewing ActewAGL's service levels.

In respect of the other indicators of service standards not directly regulated by the commission, the commission also expects ActewAGL to perform at no worse a level than was achieved in 2002–03 and 2003–04.

4 Terms and conditions

The terms and conditions of an access arrangement form the basis of the relationship between the service provider and the user of the service. Terms and conditions are of concern where a monopoly service provider is able to adopt a ‘take it or leave it’ approach to the terms and conditions under which it operates. This can shift risks from the service provider to the user. For these reasons, regulatory involvement in setting default terms and conditions can help ensure that the interests of service providers and users are appropriately balanced.

4.1 Code requirements

Section 3.6 of the Code requires that an access arrangement must include the terms and conditions on which the service provider will supply each reference service. The terms and conditions included must, in the regulator’s opinion, be reasonable.

4.2 2000 final decision

The commission’s 2000 final decision did not specifically consider general and specific terms and conditions, curtailment of supply or establishment of receipt points.

4.2.1 Gas balancing

In its 2000 final decision, the commission required ActewAGL to amend the gas-balancing provisions in its access arrangement to accurately reflect the gas-balancing arrangement in Attachment 6 of the final decision. This arrangement provided a gas-balancing mechanism for two possible scenarios: where there is an operational balancing agreement (OBA) in place, and where there is no OBA in place.

The commission’s decision reflected the fact that ActewAGL and the operators of the Moomba–Sydney Pipeline and the EGP were developing an OBA to ensure matching between deliveries from pipelines and receipts into the network. An OBA would largely remove the need for operational

balancing requirements in the access arrangement, with a need for a default operational balancing arrangement only in the event that the OBA failed to eventuate or ceased to operate in the future.

The commission expressed concern about ActewAGL's proposal to purchase swing gas sourced from the Moomba–Canberra Pipeline through competitive tender, since AGL Energy Sales and Marketing may be in a position to exercise substantial market power in the tendering process for any swing gas. The commission recognised that while addressing this issue may require a fundamental redesign of the operational balancing arrangement to deal with swing gas on a longer term 'park and lend' basis that would enable EGP users to compensate for nomination shortfalls at a later date, to develop a new operational balancing arrangement of this type is complex and would take time.

As ActewAGL's proposed operational balancing is a default arrangement that will be used only as a fall-back position in the absence of an OBA, and for timing reasons, the commission did not require a fundamental change to the proposed default arrangement.

The commission was also concerned about ActewAGL's proposal to include a 25 per cent premium on gas it purchases for operational balancing. In reviewing the proposal as part of the IPART review of AGLGN's gas access arrangement in New South Wales, users questioned the need for a premium and its associated redistribution mechanism. Users believe AGL's incumbent retailers may be the major beneficiaries of any redistribution since the mechanism appears to favour the larger incumbent retailers by allocating them the majority of any premiums collected.

Following discussions with IPART and the Balancing Working Group of the then New South Wales Ministry of Energy and Utilities (now the Department of Energy, Utilities and Sustainability) Retail Gas Project, AGLGN decided to remove the provisions dealing with the 25 per cent premium. The commission required a similar approach to be adopted in the ACT.

Notwithstanding the above, the commission accepted ActewAGL's proposal as a default arrangement, and signalled that the provision of default operational balancing services would be examined at the next review with the benefit of further experience in a competitive market.

4.2.2 Gas quality specifications

In its 2000 final decision, the commission required ActewAGL to amend Schedule 3, Gas Quality Specifications, by adding a statement at the beginning of the schedule to the effect that:

Gas delivered to a Receipt Point by a User must comply with the specifications prescribed by any ACT or New South Wales law that extends to that gas. Such a law may include, without limitation, any regulation made under the *Gas Supply Act 1998* or a new Utilities Act. For any period during this Access Arrangement in which there is no such law, the gas must comply with:

- specifications determined by ActewAGL from time to time
- failing such a determination, the table set out in Schedule 3 described as the *default specification*.

4.3 ActewAGL proposal

To make the access arrangement easier to use, ActewAGL has consolidated terms and conditions that apply to all services into part 3 of the proposed access arrangement. Terms and conditions that apply specifically to each reference service are specified in the separate attachment to the access arrangement for each reference service (attachments 3A to 3H). Attachments 4, 5, 6 and 8, which contain provisions relating to curtailment of supply, gas balancing, gas quality specification and establishment of receipt points, also apply.

In general, the terms and conditions in the proposed access arrangement are more detailed than those in the 2001 access arrangement, with the aim of setting out more clearly the rights and obligations of ActewAGL and users.

4.3.1 General terms and conditions

The general terms and conditions contained in part 3 of the proposed access arrangements cover matters including:

- transport services agreements (clauses 3.6 to 3.14)
- rights to access (clause 3.15)

- invoicing (clauses 3.17 to 3.18)
- receipt points and stations (clauses 3.20 to 3.30)
- delivery points and stations (clauses 3.31 to 3.38)
- allocation of gas (clause 3.39)
- gas quality (clauses 3.42 to 3.45)
- variations in quality and pressure and interruptions (clauses 3.47 to 3.48)
- suspensions of supply (clauses 3.54 to 3.58)
- overruns (clause 3.61)
- interruptions to supply (clauses 3.62 to 3.63)
- terms implied by statute and exclusion of other implied terms (clauses 3.65 to 3.69)
- limitation of liability (clauses 3.70 to 3.71)
- indemnities (clause 3.73).

Proposed changes to the general terms and conditions include:

- Clauses on receipt points and delivery points (covering establishment, alterations, relocations, measuring consumption, estimating consumption and relocating measuring equipment—clauses 3.20 to 3.38) have been amended as follows:
 - The pressure range within which users are required to deliver gas to a receipt point has changed slightly (clause 3.20).
 - A provision allowing for establishment of new receipt points has been added (clause 3.21).
 - Clause 3.25 has been expanded to require a user to have contractual arrangements in place with the owner of a receipt station to allow ActewAGL to exercise its right to operate pressure and flow control facilities at any receipt station not owned by ActewAGL.

- Clause 3.27 has been expanded to provide for ActewAGL to recover costs incurred in measuring or improving the measurement of gas quality at the receipt point (clause 3.27(c)).
 - Clauses relating to alterations to receipt points and receipt stations have been added (clauses 3.28 to 3.29).
 - Clause 3.30, allowing ActewAGL to estimate consumption at receipt points, has been added.
 - Provisions relating to estimating consumption at delivery points and relocating measuring equipment have been clarified (clauses 3.36 to 3.37).
 - A provision allowing ActewAGL to relocate measuring equipment or cease providing the service metered by that measuring equipment has been added (clause 3.38).
- Provisions have been introduced for ActewAGL to require a user to provide evidence that the user has title to gas at a receipt point and that the quantities of gas the user is entitled to have delivered to a receipt point are consistent with the quantities the user is required to have delivered under gas-balancing arrangements applying to that receipt point (clause 3.40).
 - A requirement has been introduced for users to comply with gas-testing requirements where quality is measured upstream of the network (clause 3.45).
 - A requirement has been added for users to notify ActewAGL of all points where gas is introduced into the system of pipes through which gas is delivered to a receipt point (including contractual and physical sources of the gas), and any changes to those points or sources (clause 3.46).
 - Provisions noting that the provision of services is subject to a variety of factors—and hence ActewAGL is unable to guarantee there will be no variations in gas pressure or quality or interruptions to gas supply—have been added (clauses 3.47 to 3.48).

- A clause has been added specifying that the force majeure clauses do not apply to a party's failing to pay money or a user's failing to ensure that gas delivered to a receipt point meets specifications (clause 3.53).
- Clauses 3.54 to 3.58 on suspension of supply (at a user's request or by ActewAGL) have been added.
- Clauses 3.59 to 3.60 on non-specification gas have been added.
- Clauses 3.62 and 3.63 on interruptions to supply have been added.
- Clause 3.64 on privacy has been added.
- Clauses 3.65 to 3.69 on terms implied by statute and exclusion of other implied terms have been added.
- Clause 3.70 on limitation of liability has been modified.
- Clause 3.73 on indemnities has been modified.

4.3.2 Specific terms and conditions

As noted above, specific terms and conditions for each reference service are contained in the attachment for each reference service (attachments 3A to 3H). These terms and conditions cover:

- the term of the service
- extension of the term
- MDQ and MHQ
- basic metering equipment
- the meter data service
- overruns
- summer tranche capacity
- short-term capacity
- additional capacity

- measuring equipment
- delivery points.

These provisions are generally similar to those in the 2001 access arrangement. Exceptions include:

- The requirement to nominate MDQ and MHQ has been made a service-specific condition rather than a general condition.
- For the capacity reservation service:
 - the requirement for ActewAGL to respond to a request for summer tranche capacity within 10 business days of the date of receipt of a completed request for service form has been removed (clause 1.23, Attachment 3A)
 - new provisions relating to additional capacity for an existing service have been added (clauses 1.33 to 1.37, Attachment 3A).
- For the managed capacity and throughput services:
 - provisions for users to extend a service for a further term have been added (clause 1.7 to 1.12, Attachment 3B and clauses 1.6 to 1.10, Attachment 3C)
 - provisions relating to overruns have been simplified (clause 1.17, Attachment 3B and clause 1.16, Attachment 3C).
- For the tariff service, a clause requiring ActewAGL and the user to comply with the applicable gas law in relation to connection, disconnection and reconnection of measuring equipment has been added.
- For meter data services, a clause relating to losses as a result of interference by a user with the operation of metering equipment for non-tariff delivery points has been added (clause 1.11, Attachment 3F).

4.3.3 Curtailment of supply

The curtailment of supply policy in Attachment 4 sets out the manner in which supply will be interrupted or curtailed in the event of a gas supply reduction. ActewAGL proposes to add two clauses to the existing

curtailment of supply policy (operational principles, schedule 2F, in the 2001 access arrangement).

The first clause states that ActewAGL may suspend delivery of gas if a user fails to comply with the load-shedding procedure in the access arrangement (clause 1.15, Attachment 4). The second additional clause says that ActewAGL will not be liable for damages incurred by the user arising from load shedding, and the user will be liable for and indemnify ActewAGL against any loss ActewAGL suffers, incurs or is liable for arising out of its load-shedding procedures (clauses 1.16 and 1.17, Attachment 4).

4.3.4 Gas balancing

The gas-balancing arrangements set out in Attachment 5 aim to minimise the impact of local physical variations on pipeline and network transportation arrangements, and ensure deliveries from pipelines match receipts into the network.

ActewAGL has advised that the gas-balancing arrangements in Attachment 5 of the proposed access arrangement have been amended to take account of changing circumstances in the market, notably Duke Energy's refusal to sign the OBA.

The gas-balancing provisions in the 2001 access arrangement provided a gas-balancing mechanism for two possible scenarios:

- where there is an OBA in place
- where there is no OBA in place.

The arrangement for gas balancing in the 2001 access arrangement when there is no OBA in place involved ActewAGL purchasing and selling operational balancing gas.

ActewAGL proposes to amend the gas-balancing arrangements to provide a gas-balancing mechanism for three possible scenarios:

- gas balancing with an OBA with pipeline operators
- gas balancing with an OBA with pipeline shippers
- gas balancing with no OBA in place.

Minor changes are proposed to the sections of the access arrangement relating to gas balancing with an OBA with pipeline operators and gas balancing without an OBA.

4.3.5 Gas quality specifications

One of the general conditions requires users to ensure that gas meets appropriate specifications. ActewAGL proposes to revise the gas quality specifications in Attachment 6 of the access arrangement to make them consistent with the Gas Supply (Network Safety Management) Regulation 2002 in New South Wales.⁴ The regulation is currently being reviewed by the New South Wales Department of Energy, Utilities and Sustainability.

4.3.6 Establishment of receipt points

ActewAGL has added an attachment to the proposed access arrangement (Attachment 8) dealing with establishment of receipt points. It sets out the matters to be included in an agreement between ActewAGL and any user wishing to establish a new receipt point.

4.4 Issues paper responses

4.4.1 General terms and conditions

In its response to the issues paper ActewAGL has submitted that its proposed revisions to the general terms and conditions are appropriate, and meet the requirements of the Code.

It suggested that most of the proposed revisions are designed to provide further detail and clarity compared with the 2001 access arrangement. Some of the revisions take account of changes in the market and more flexible supply options since the 2001 access arrangement commenced. ActewAGL has submitted that other (unchanged) general terms and conditions satisfied Code requirements when approved, and continue to be appropriate. They

⁴ A copy of the Regulation can be obtained from the Government of New South Wales legislation home page at < www.legislation.nsw.gov.au>.

have also worked well, with no disputes or complaints recorded during the 2001 access arrangement period.

4.4.2 Specific terms and conditions

ActewAGL is of the view that the unchanged specific terms and conditions have worked well during the 2001 access arrangement period and therefore continue to be appropriate. The commission understands that ActewAGL's proposed changes to specific terms and conditions are largely designed to provide greater detail and certainty for users and ActewAGL, and are consistent with the Code in that they are necessary for the safe and efficient operation of the network.

4.4.3 Curtailment of supply

ActewAGL has submitted that its proposed revisions to the curtailment of supply policy are designed to provide greater detail and certainty for users and ActewAGL, and reflect changes in conditions since the 2001 access arrangement (schedule 2F part A and schedule 2A conditions 25–27). It submitted that the additional clauses are consistent with the Code requirements that the legitimate business interests of the service provider and the operational and technical requirements necessary for the safe and reliable operation of the pipeline be taken into account.

ActewAGL considers that the provision that ActewAGL will not be liable for damages incurred by the user arising from load shedding, and the user will be liable for and indemnify ActewAGL against any loss ActewAGL suffers, incurs or is liable for arising out of its load-shedding procedures, is reasonable on the basis that the user has a contractual arrangement with the end customer in which it can protect itself against claims from the customer regarding load-shedding procedures. ActewAGL, on the other hand, does not have a contractual arrangement with the end customer and cannot protect itself from end customer claims in these circumstances. ActewAGL argues the user is responsible for ensuring the end customer understands the potential for load shedding and takes the required steps to protect itself in the event those procedures are implemented.

4.4.4 Gas balancing

ActewAGL has submitted that amendments to the gas-balancing arrangements take account of changing circumstances in the market. The amendments became necessary following the unwillingness of parties to sign the OBA proposed by ActewAGL. In New South Wales, where the OBA for AGL Gas Networks' Wilton network was recently terminated due to one of the three parties withdrawing from the agreement, the uncertainty surrounding the establishment and ongoing survival of an OBA between network and pipeline operators is also evident.

The arrangement for gas balancing when there is no OBA in place in the 2001 access arrangement involves ActewAGL purchasing and selling operational balancing gas. ActewAGL suggested this is not its preferred position, as it is a network owner, not a gas trader.

ActewAGL has submitted that the proposed balancing mechanisms provide flexibility for suppliers and their pipeline shippers to reach their own agreements, with agreement and overview from ActewAGL, without the need for ActewAGL to be involved in purchasing and selling gas. It submitted this is consistent with the Code requirement to take account of the interests of both the service provider and users.

The gas-balancing arrangements in Attachment 5 also take account of potential changes in market circumstances, by allowing for the possibility that the New South Wales and ACT Gas Market Company may introduce a market-based gas-balancing scheme.

4.4.5 Gas quality specifications

ActewAGL has suggested that the revisions to gas quality specifications take account of changes in statutory requirements and are therefore appropriate. The proposed specifications are consistent with the Network (Network Safety Management) Regulation in New South Wales.

4.4.6 Establishment of receipt points

ActewAGL has submitted the proposed clauses on establishment of receipt points are appropriate in that they meet the requirements of the Code. Clause 1.2 relates specifically to the need to ensure that the 'integrity, safety

and operability of the network is not compromised', consistent with section 2.24 of the Code. Clauses 1.4 and 1.5 also relate to safety and operational matters. Clause 1.3 requires that the cost of establishing the receipt point be borne by the person wishing to establish the new receipt point (unless ActewAGL notifies otherwise). ActewAGL considers it appropriate and efficient for the user of the new receipt point to bear the cost, rather than spread the cost across all users. It submitted this is consistent with the Code requirement that the economically efficient operation of the pipeline be encouraged.

4.5 Consideration of issues

The commission has not received any submissions from users of the network. There is no material before the commission to suggest that the terms and conditions proposed by ActewAGL are not reasonable. The commission does not consider that the current terms and conditions are unreasonable and so has focused only on the proposed revisions without reconsidering the terms and conditions.

4.5.1 General terms and conditions

The commission considers that the proposed revisions to the general terms and conditions on which services will be offered appear to be reasonable. However, the commission would welcome the views of interested persons on proposed general terms and conditions.

In particular, the commission would welcome comments in relation to:

- whether the basis for the interest rate charged on amounts that are not paid by the due date should be specified in the access arrangement or is more appropriately specified in the Transport Services Agreement (clause 3.18)
- provision for ActewAGL to recover costs incurred in measuring or improving the measurement of gas quality at the receipt point (clause 3.27(c))
- clauses relating to alterations to receipt points and receipt stations (clauses 3.28 to 3.29), including whether the process by which ActewAGL would require users to pay for alterations to receipt points

and receipt stations should be specified, and whether these costs should be included in forecasts and recovered through reference tariffs more generally, or dealt with via the extensions/expansions policy

- the modification of provisions on limitation of liability (clause 3.70)
- the modification of indemnity provisions (clause 3.73).

4.5.2 Specific terms and conditions

The commission considers that the proposed revisions to specific terms and conditions on which services will be offered generally appear to be reasonable. However, the commission would welcome the views of network users on these terms and conditions.

In particular, the commission would welcome comments on whether the following proposed revisions are reasonable:

- for the capacity reservation service, removal of the requirement for ActewAGL to respond to a request for summer tranche capacity within 10 business days of the date of receipt of a completed request for service form (clause 1.23, Attachment 3A)
- where a request for additional capacity for an existing service is accepted, provision that the user is liable for and indemnifies ActewAGL against losses as a result of the user exceeding the MDQ applicable at the time it utilised the additional capacity (clause 1.37, Attachment 3A).

4.5.3 Curtailment of supply

The commission considers that the proposed revision that ActewAGL may suspend delivery of gas if a user fails to comply with the load-shedding procedure in the access arrangement appears reasonable.

In relation to the proposal that ActewAGL will not be liable for damages incurred by the user arising from load shedding, and that the user will be liable for and indemnify ActewAGL against any loss ActewAGL suffers, incurs or is liable for arising out of its load-shedding procedures, the commission is not convinced that the benefits for the market as a whole from such terms and conditions outweigh the costs imposed on users. In the commission's view, while the proposed indemnity provision would not be

inconsistent with the operational and technical requirements necessary for the safe and reliable operation of the pipeline, it unduly favours the service provider's legitimate business interests and investment in the pipeline, relative to the interests of users and prospective users (in terms of the factors the commission is to take into account under section 2.24 of the Code in assessing the proposed access arrangement).

Accordingly, the commission is not prepared to approve this revision without justification from ActewAGL that these terms and conditions are reasonable in terms of the requirements of the Code. To assist the commission in its final consideration of this issue, the commission would welcome the views of ActewAGL and users on this issue.

4.5.4 Gas balancing

It is considered reasonable for ActewAGL to provide balancing gas. According to the definition of 'Related Business' in section 10.8 of the Code, purchasing or selling of natural gas by a pipeline service provider in this context is not required to be ring fenced from the business of providing pipeline services, to the extent the purchasing or selling of natural gas is necessary:

- (a) for the safe and reliable operation of a covered pipeline; or
- (b) to enable a service provider to provide balancing services in connection with a covered pipeline.

The commission proposes to accept ActewAGL's proposed arrangements for gas balancing as being reasonable.

4.5.5 Gas quality specifications

The commission considers that the proposed revisions to gas quality specifications appear reasonable. However, in the event that the review of the Gas Supply (Network Safety Management) Regulation 2002 being undertaken by the New South Wales Department of Energy, Utilities and Sustainability results in changes to gas quality specifications, these changes should be reflected in the access arrangement.

4.5.6 Establishment of receipt points

The commission considers the proposed provisions relating to establishment of receipt points, in Attachment 8 of the access arrangement, are reasonable.

4.6 Draft decision

The commission proposes to approve the terms and conditions on which ActewAGL proposes to provide services, subject to its consideration of any comments on terms and conditions received from users in response to this draft decision.

The commission proposes to accept ActewAGL's proposed general terms and conditions, but would welcome the views of users on whether the proposed terms and conditions are reasonable.

In particular the commission would be interested in the views of users in relation to:

- whether the basis for the interest rate charged on amounts that are not paid by the due date should be specified in the access arrangement
- provision for ActewAGL to recover costs incurred in measuring or improving the measurement of gas quality at the receipt point
- alterations to receipt points and receipt stations, including whether the process by which ActewAGL would require users to pay for alterations to receipt points and receipt stations should be specified, and whether these costs should be included in forecasts and recovered through reference tariffs more generally, or dealt with via the extensions/expansions policy
- provisions on limitation of liability
- indemnity provisions.

The commission also proposes to approve the proposed revisions to specific terms and conditions on which services will be offered, but would welcome the views of network users on whether these terms and conditions are reasonable. In particular, the commission would welcome comments on:

- for the capacity reservation service, removal of the requirement for ActewAGL to respond to a request for summer tranche capacity within 10 business days of the date of receipt of a completed request for service form
- where a request for additional capacity for an existing service is accepted, provision that the user is liable for and indemnifies ActewAGL against losses as a result of the user exceeding the MDQ applicable at the time it utilised the additional capacity.

The commission considers the proposed curtailment of supply policy generally appears reasonable. However, the commission is not convinced that the benefits for the market as a whole of the proposed revision that ActewAGL will not be liable for damages incurred by the user arising from load shedding, and the user will be liable for and indemnify ActewAGL against any loss ActewAGL suffers, incurs or is liable for arising out of its load-shedding procedures, outweigh the costs imposed on users. The commission requires 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. The commission seeks the views of ActewAGL and users to assist it in its final consideration of this issue.

The commission proposes to accept ActewAGL's proposed arrangements for gas balancing and establishment of receipt points.

The commission also proposes to accept the proposed revisions to gas quality specifications, subject to a requirement 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.

5 Reference tariff overview

As noted in Section 1 of this draft decision, section 2.24 of the Code sets out, among other matters, the elements that must be contained in an access arrangement in order for the commission to be able to approve the access arrangement. Those elements are set out in sections 3.1 to 3.20 of the Code and include:

- 3.3 An access arrangement must include a Reference Tariff for:
 - (a) at least one Service that is likely to be sought by a significant part of the market; and
 - (b) each Service that is likely to be sought by a significant part of the market and for which the Relevant Regulator considers a Reference Tariff should be included.
- 3.4 Unless a Reference Tariff has been determined through a competitive tender process as outlined in sections 3.21 to 3.36, an Access Arrangement and any Reference Tariff included in an Access Arrangement must, in the Relevant Regulator's opinion, comply with the Reference Tariff Principles described in section 8.
- 3.5 An Access Arrangement must also include a policy describing the principles that are to be used to determine a Reference Tariff (a **Reference Tariff Policy**). A Reference Tariff Policy must, in the Relevant Regulator's opinion, comply with the Reference Tariff Principles described in section 8.

In accordance with the elements noted above, in assessing reference tariffs and a reference tariff policy contained in a proposed access arrangement, the regulator is to determine whether the tariffs comply with the principles and objectives in section 8 of the Code. In this regard:

- the factors in section 2.24 of the Code (the factors that must be taken into account by the regulator in determining whether to approve an access arrangement) may be used by a regulator for guidance in relation

to the discretion and options provided by the scope of the principles and objectives as set out in section 8⁵

- section 8.49 of the Code provides that the regulator may determine its own policies for assessing whether a reference tariff meets the requirements of section 8, subject to the requirements for public consultation.

Section 8.1 of the Code provides that a service provider's reference tariffs and reference tariff policy should be designed with a view to achieving the following objectives:

- (a) providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service;
- (b) replicating the outcome of a competitive market;
- (c) ensuring the safe and reliable operation of the Pipeline;
- (d) not distorting investment decisions in Pipeline transportation systems or in upstream and downstream industries;
- (e) efficiency in the level and structure of the Reference Tariff; and
- (f) providing an incentive to the Service Provider to reduce costs and to develop the market for Reference and other Services.

Section 8.1 also provides the regulator with discretion to determine, where the above objectives may be in conflict in relation to a particular determination, the manner in which the conflicting objectives can best be reconciled, or which of them should prevail.

⁵ This principle was evidenced in a recent decision by the Supreme Court of Western Australia: *Michael ex parte Epic Energy (WA) Nominees Pty Ltd* (2002).

Section 8.2 of the Code sets out the following factors about which the regulator must be satisfied in determining to approve a reference tariff and reference tariff policy:

- (a) the revenue to be generated from the sales (or forecast sales) of all Services over the access arrangement period (the **Total Revenue**) should be established consistently with the principles and according to one of the methodologies contained in this section 8;
- (b) to the extent that the Covered Pipeline is used to provide a number of Services, that portion of Total Revenue that a Reference Tariff is designed to recover (which may be based upon forecasts) is calculated consistently with the principles contained in this section 8;
- (c) a Reference Tariff (which may be based upon forecasts) is designed so that the portion of Total Revenue to be recovered from a Reference Service (referred to in paragraph (b)) is recovered from the Users of that Reference Service consistently with the principles contained in this section 8;
- (d) Incentive Mechanisms are incorporated into the Reference Tariff Policy wherever the Relevant Regulator considers appropriate and such Incentive Mechanisms are consistent with the principles contained in this section 8; and
- (e) any forecasts required in setting the Reference Tariff represent best estimates arrived at on a reasonable basis.

Section 8.3 provides that the manner in which a reference tariff may vary within an access arrangement period (reference tariff policy) is within the discretion of the service provider, subject to the regulator being satisfied that it is consistent with the objectives in section 8.1.

Section 8.3 provides the following examples of reference tariff policies:

- a cost of service approach
- a price path approach
- a reference tariff control formula approach
- a trigger event adjustment approach
- any variation or combination of the above.

Other reference tariff principles in section 8 of the Code provide guidance on the procedures, methods and factors that may be applied in determining a reference tariff or reference tariff policy. The relevant provisions of section 8 of the Code, for example as relating to specific elements of cost and tariff calculations, are discussed in the following sections of this draft decision.

Under the reference tariff principles in section 8 of the Code, including the provisions which specify cost and tariff methodologies, there exists scope for different methodologies and values to be reasonably applied in determining reference tariffs. Consistent with section 2.24 and section 8 of the Code, the commission has sought in this draft decision to achieve an appropriate balance between the various matters, objectives and factors referred to in the Code.

6 Total revenue

6.1 Code requirements

Total revenue represents the stream of revenue over an access arrangement period that reference tariffs are designed to deliver to the pipeline service provider. The principles in the Code equate total revenue to the efficient cost, or anticipated efficient cost, of delivering the pipeline services.

The majority of the costs incurred by a gas distribution business in delivering natural gas pipeline services are capital costs, reflecting the capital intensity of the natural gas supply industry. The key concepts in the Code used in determining capital costs are:

- the capital base, representing the value of the assets used to provide the services
- the rate of return, representing the opportunity cost of funds in relation to the capital base—i.e. the ‘return on capital’—which may also be represented as the discount rate that the market would use to value the stream of income that the regulatory regime provides the service provider
- depreciation, the ‘return of capital’ invested in the capital base by the service provider.

Under section 8.9 of the Code, the capital base is rolled forward from the start of one access arrangement period to the next, and adjusted only for capital investment, depreciation, and assets that have been identified as stranded assets (redundant capital) during the intervening period. Section 8.9 of the Code precludes the revaluation of assets at future reviews.

Non-capital costs included in the calculation of the efficient costs of providing services are operating, maintenance and other costs, and may include costs incurred for generic market development activities aimed at increasing long-term demand for the delivery of the service.

In addition to setting out the principles for determining the components of efficient cost, the Code in section 8.4 provides a choice of three

methodologies that may be used to determine total revenue on the basis of those costs. The Code permits other methodologies, provided that the resulting total revenue can be expressed in terms of one of those three methodologies (section 8.5). The methodology applied may be expressed in nominal or real terms, or on any other basis for dealing with the effects of inflation (section 8.5A).

ActewAGL has adopted a cost of service methodology for the reference tariffs in its proposed access arrangement.

The relevant provisions of the Code are as follows:

- 8.4 The Total Revenue (a portion of which will be recovered from sales of Reference Services) should be calculated according to one of the following methodologies:

Cost of Service: The Total Revenue is equal to the cost of providing all Services (some of which may be the forecast of such costs), and with this cost to be calculated on the basis of:

- (a) a return (***Rate of Return***) on the value of the capital assets that form the Covered Pipeline or are otherwise used to provide Services (***Capital Base***);
- (b) depreciation of the Capital Base (***Depreciation***); and
- (c) the operating, maintenance and other non-capital costs incurred in providing all Services (***Non-Capital Costs***).

The cost of service methodology is generally referred to as the ‘building block’ methodology. Sections 8.5 and 8.5A of the Code provide the following:

- 8.5 Other methodologies may be used provided the resulting Total Revenue can be expressed in terms of one of the methodologies described above.
- 8.5A Any of the methodologies described in section 8.4 or permitted under section 8.5, may be applied:
- (a) on a nominal basis (under which the Capital Base and Depreciation are expressed in historical cost terms and all other

costs and revenues are expressed in current prices and a nominal Rate of Return is allowed); or

(b) on a real basis (under which the Capital Base, Depreciation and all costs and revenues are expressed in constant prices and a real Rate of Return is allowed); or

(c) on any other basis in dealing with the effects of inflation,

provided that the basis used is specified in the Access Arrangement, is approved by the Relevant Regulator and is applied consistently in determining the Total Revenue and Reference Tariffs.

Section 8.4 of the Code and the other provisions of the Code relating to the general approach to determining total revenue provide the basis for the individual components of the cost of service methodology applied by ActewAGL to calculate the total revenues embodied in its proposed access arrangement. The individual cost of service components used by ActewAGL are assessed by the commission in sections 7 to 10 of this draft decision. An assessment of cost of service components in aggregate is provided in Section 11 of this draft decision.

6.2 2000 final decision

ActewAGL's 2001 access arrangement is based on the cost of service approach, as varied by the commission's 2000 final decision. The key elements of the existing approach applying to ActewAGL's natural gas distribution system are illustrated by the commission's determination of total revenue for the system, as shown in Table 6.1.

Table 6.1 ActewAGL total revenue requirement, 2001–04

Year ending June	\$ million, real 2000–01			
	2001	2002	2003	2004
Final decision				
Return on capital base	15	15.7	15.8	15.8
Depreciation	5.9	6.3	6.5	6.8
Return on working capital	0.6	0.5	0.5	0.5
Operating costs	9.9	9.4	9	8.7
Total	31.4	31.9	31.9	31.8
ActewAGL's proposal				
Return on capital base	18.4	19.3	20	20.6
Depreciation	8	8.1	8.1	8.2
Return on working capital	0	0	0	0
Operating costs	11.5	11.4	11.1	10.9
Total	37.9	38.8	39.2	39.7

Table 6.1 shows that a cost component for return on working capital was included in the 2001 access arrangement. ActewAGL proposes to include a similar component in its proposed reference tariffs for the forthcoming access arrangement period. The commission's assessment of that ActewAGL proposal is discussed below.

6.3 ActewAGL proposal

Total revenues used in determining the reference tariffs in ActewAGL's proposed access arrangement are based on the cost of service methodology that applied under the 2001 access arrangement, in that total revenue is determined based on the 'building blocks' of:

- return on capital, representing a rate of return on the capital base value
- return of capital, representing depreciation of the capital base
- non-capital costs.

In ActewAGL's proposal, as noted above, the return on capital applies to both fixed assets and current assets (i.e. working capital).

Also similar to the 2001 access arrangement, the cost of service methodology used by ActewAGL is applied on a real basis, in that the capital base, depreciation and costs and revenues are expressed in constant prices and a real rate of return is applied.

6.3.1 Return on working capital

ActewAGL considers that reference tariffs should incorporate a return on working capital. Its justification for seeking such a return is that, consistent with fixed capital, investors commit funds for working capital at a point in time and have these funds returned at a future time, but in the meantime require a return to compensate for the opportunity cost of the capital committed.

ActewAGL states that the only difference between the treatment of working capital and that of capital costs is the length of time during which the funds are tied up. ActewAGL considers that the same rate of return should apply to working capital as to fixed capital.

ActewAGL notes that a return on working capital was allowed by the commission in the 2000 final decision and that IPART also includes an allowance for working capital in AGLGN's access arrangement and in regulated electricity distribution tariffs.

6.4 Issues paper responses

ActewAGL's response to the commission's issues paper did not raise any additional issues in relation to the commission's proposed methodology for determining total revenue, or the basis used for dealing with the effects of inflation.

ActewAGL's response did, however, provide additional comment in relation to its view that the capital base should include an amount of working capital (and consequently that, under the cost of service methodology, ActewAGL should obtain a return on such working capital).

6.5 Consideration of issues

The reference tariffs in ActewAGL's proposed access arrangement have been developed on the basis of the cost of service methodology which has been applied on a real basis.

Dealing with the effects of inflation on a real basis, the service provider would not bear inflation risks. Such risks would be borne by service providers under a nominal approach. Using the real basis, the capital base adjusts to account for actual inflation, so the service provider is insulated from the cost of unanticipated inflation from the start of the next access arrangement period. Alternatively, under the nominal basis, inflation is factored into the (fixed) rate of return, so that where inflation is higher (or lower) than forecast, the service provider incurs a cost (or benefit), given that only the nominal value of the capital base is carried forward to the start of the next access arrangement period.

It is reasonable that the service provider not bear the inflation risk associated with investment in the distribution system. The inflation rates used by ActewAGL for this purpose are discussed in Section 8 of this draft decision.

6.5.1 Return on working capital

ActewAGL considers that reference tariffs should incorporate a return on working capital.

In its 2000 decision (p. 60), the commission stated:

The commission acknowledges that there are alternative regulatory approaches to treating net working capital under a cost of service methodology. The commission considers that further research and consultation should be undertaken. In light of the timing implications for this review, the commission has decided that the approach in the draft decision should be maintained. However, the issue of net working capital will be reconsidered at the next review.

The commission notes that different approaches have been taken by Australian regulators in relation to whether a return on working capital should be included as a building-block component of total revenue. The Essential Services Commission in Victoria (ESCV) and the ACCC do not allow a separate return on working capital. Other regulators, such as IPART, have permitted such a return to be included.

A working capital requirement exists where expenditure is paid in advance of receipts, creating a financing cost which reflects the difference between current assets and current liabilities.

In line with arguments expressed by the ESCV, the commission believes that, in order to permit an allowance for working capital, an approach must be taken that is consistent with the annuity method used to determine the regulated total revenue requirement. That is, the commission would need to consider whether the tariffs resulting from the building-block approach would provide a stream of cash flows with a net present value of zero, taking into account the true timing of cash flows within each year.

The commission notes that, consistent with analysis undertaken by the ACCC and ESCV, the implicit assumption included in the building-block methodology is that returns on and of assets are calculated on an ordinary annuity basis—in that compensating payments for these cost components are assumed to occur at the end of the year. The regulatory model assumes that costs and revenues are received at the same time. If a return on working capital were included, the model would need to be adjusted to take into account the divergence of the timing of these flows. This would result in a decrease in the calculated X factor, as the net present value of costs would rise compared to the net present value of revenue.

Similar to the position reached by the commission in its 2004 final electricity and water and wastewater decisions, the commission has not been persuaded that in calculating total revenue using the building-block approach there is a justification for including a separate return on working capital. While not denying that a return on working capital may be a normal requirement of business, the commission has declined to include a working capital component in the building-block approach as it believes that the financial modelling more than compensates for this cost.

The commission's preliminary view is therefore that there is no justification for including a separate return on working capital in calculating total revenue. Accordingly, the commission proposes not to approve the inclusion of return on working capital in ActewAGL's proposed calculation of the total cost of service (total revenue requirement).

6.6 Draft decision

Subject to the commission's preliminary decision in this draft decision to disallow ActewAGL's inclusion in its cost of service components of an amount representing a return on working capital, 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.

The commission's assessment of ActewAGL's cost of service components, or 'building blocks', used in calculating its total revenue requirement for the forthcoming access arrangement period is provided in sections 7 to 10 of this draft decision.

7 Operating cost forecasts

Operating (or non-capital) costs are those costs incurred in operating and maintaining the gas distribution network.

7.1 Code requirements

Under sections 8.36 and 8.37 of the Code, non-capital costs are described as the operating, maintenance and other costs incurred in the delivery of the reference service. Provision is made for current or forecast non-capital costs to be recovered where such costs would be those incurred by a prudent service provider, acting efficiently, in accordance with accepted good industry practice, and with a view to achieving the lowest sustainable cost in delivering the reference service.

The determination of non-capital costs of providing reference services requires joint costs incurred in the provision of services to be allocated between reference services and other services.

Sections 8.38 to 8.42 of the Code relate to allocation of revenues between services and users. Sections 8.30 to 8.40 require consideration of all costs incurred that are directly attributable to the reference service, including capital costs. Capital costs are considered in Section 8 of this draft decision.

Section 8.38 of the Code requires that the portion of the total revenue that a reference tariff should be designed to recover should include all of the total revenue that reflects costs incurred that are directly attributable to the reference service, and a share of the total revenue that reflects costs incurred that are attributable to providing the reference service jointly with other services, with this share to be determined in accordance with a methodology that meets the objectives in section 8.1 and is otherwise fair and reasonable.

If the commission requires that a different methodology be used to determine the portion of total revenue to be recovered from particular reference services than that proposed by the service provider, the commission is required to provide a detailed explanation of the methodology that it requires be used in its decision (section 8.39).

Section 8.40 of the Code sets out how total revenue recovered from a rebatable service is to be recovered, and section 8.41 allows that alternative approaches to allocating costs may be used provided they have substantially the same effect as the approach outlined in sections 8.38 and 8.40.

Section 8.42 provides that (to the extent that it is technically and commercially reasonable to do so), a reference tariff should be designed so that a particular user's share of the portion of total revenue to be recovered from sales of a reference service is consistent with the principles described in section 8.38, subject to prudent discounts permitted under section 8.43.

Section 8 of the Code generally provides that non-capital costs used in setting reference tariffs may be either current estimates of costs or forecast costs. For example, this is provided for in:

- the factors in section 8.2 about which a regulator must be satisfied in determining to approve a reference tariff and reference tariff policy forecasts
- the cost of service methodology in section 8.4 for determining total revenue, which is equal to the cost of providing all services (some of which may be the forecast of such costs)
- section 8.37, relating to the level of non-capital costs which may be recovered by reference services, where such costs may be forecast costs.

Forecasts of non-capital costs must also meet the requirements of section 8.2(e) of the Code, which requires that any forecasts required in setting reference tariffs represent best estimates arrived at on a reasonable basis.

Section 4 of the Code also provides that a service provider must establish arrangements to segregate or 'ring fence' its activities of providing services using a covered pipeline from its other activities. This is to reduce the ability of the service provider to leverage its market power into upstream or downstream markets, to ensure that commercially sensitive material is not used to improve the competitive position of the service provider in its related businesses, and to remove the incentive to allocate costs in an inappropriate manner to the detriment of competitors and customers. The regulator may also require the service provider to meet additional ring fencing obligations above and beyond those set out in the Code.

7.2 2000 final decision

In its 2000 final decision, the commission decided that ActewAGL's proposed non-capital costs would account for the following:

- a cost reduction before allowance for growth of 23.5 per cent in controllable costs over the four years 2000–01 to 2003–04—controllable non-capital costs include operation and maintenance, corporate overheads and marketing expenditure, but exclude government levies, unaccounted for gas and costs associated with retail contestability
- operating and maintenance expenditure and corporate overheads that incorporate an allowance for growth, with an equal 50 per cent weighting derived from the cost drivers of total (volume) load growth and total customer growth
- marketing expenditure that incorporates an allowance for growth, with an equal 50 per cent weighting derived from cost drivers of tariff (volume) load growth and tariff customer growth
- an initial exclusion of costs associated with retail contestability, while incorporating a mechanism to allow such costs to be passed through to users/customers.

Details of non-capital cost amounts determined by the commission to apply for each year of the 2001 access arrangement period are shown in Table 7.1 below.

7.3 ActewAGL proposal

7.3.1 2001 access arrangement

ActewAGL's non-capital costs over the 2001 access arrangement period were higher than originally forecast by the commission, as shown in Table 7.1.

Table 7.1 ActewAGL non-capital costs, commission forecast and actual, 2001–04

Year ending 30 June	\$ million, real 2004–05			
	2001	2002	2003	2004
Final decision	11.12	10.55	10.11	9.77
Actual	12.78	11.58	12.02	11.57
Difference	1.66	1.03	1.91	1.80

ActewAGL has attributed the increased expenditure to:

- higher than forecast growth in customer numbers, and substantial growth in the size of the network
- unexpected costs associated with the January 2003 bushfires
- higher than anticipated insurance costs
- costs associated with establishing the new asset management arrangement with Agility
- the fact that the 2001 access arrangement and the prices and incentive structures associated with it did not become effective until January 2001, whereas the levels allowed in the 2000 final decision assumed that these prices and incentive structures would take effect from July 2000.

Although its actual costs were above the forecasts of the commission in its 2000 final decision, ActewAGL has provided performance indicators (shown in Table 7.2) to demonstrate it has achieved efficiencies over the current access arrangement period.

Table 7.2 ActewAGL performance against indicators, 2001–04

Year ending 30 June	\$ real, 2004–05			
	2001	2002	2003	2004
Opex/customer	150.0	130.9	129.7	119.2
Opex/km main	3,611.0	3,235.0	3,311.0	3,117.0
Opex/TJ	1,908.0	1,751.0	1,793.0	1,630.0

Opex = total non-capital costs.

ActewAGL has submitted that the indicators above compare favourably with those of service providers with less dense networks, such as Envestra in

Queensland. However, they are less favourable than those of service providers with denser networks, such as the Victorian gas distribution businesses.

7.3.2 Forecast operating expenditure

ActewAGL's forecast non-capital costs for the forthcoming access arrangement period are shown in the table below. ActewAGL has advised that the forecasts incorporate an efficiency improvement factor of 1.5 per cent.

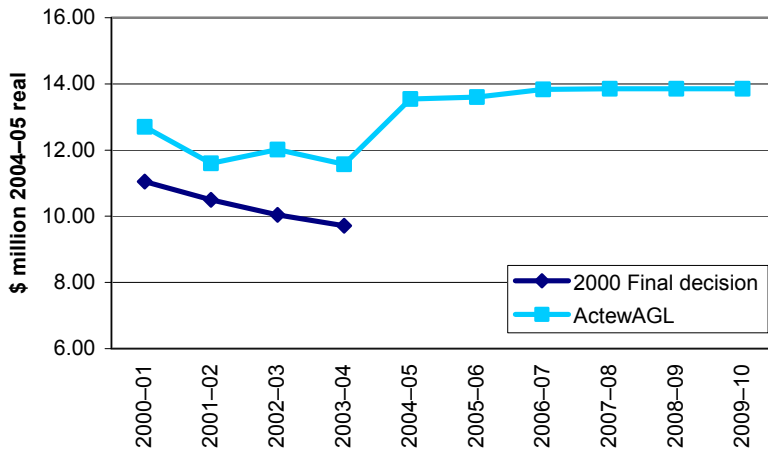
Table 7.3 ActewAGL operating expenditure, actual 2004 and forecast 2005–10

Year ending 30 June	Actual 2004	\$ million, real 2004–05					
		2005	2006	2007	2008	2009	2010
Controllable cost							
Asset services	4.18	4.46	4.52	4.75	4.80	4.84	4.87
Asset management	2.85	3.10	3.06	3.02	2.97	2.89	2.83
Corporate overheads	1.69	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	0.48
Marketing	1.46	1.84	1.87	1.89	1.90	1.93	1.95
Other direct costs	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Total	10.90	12.04	12.09	12.30	12.31	12.30	12.29
Other allowable costs							
Government levies	0.34	0.55	0.55	0.55	0.55	0.55	0.55
Contestability costs ¹	0.00	0.45	0.46	0.46	0.46	0.46	0.45
Unaccounted for gas	0.10	0.26	0.26	0.28	0.29	0.29	0.31
Other	0.23	0.24	0.24	0.24	0.24	0.25	0.25
Total	0.67	1.50	1.51	1.53	1.54	1.55	1.56
Total non-capital costs	11.57	13.54	13.60	13.83	13.85	13.85	13.85

¹ Up to and including 2004, contestability costs were allowed as a cost pass-through. In 2003–04, contestability costs were \$0.94 million.

Figure 7.1 compares operating costs across the two regulatory periods.

Figure 7.1 ActewAGL operating expenditure, actual and projected, 2000–01 to 2009–10



The real increase in asset services costs over the period has been attributed by ActewAGL to forecast growth in customer numbers and throughput. A one-off increase in operations and maintenance costs is included for 2007, when the Hoskinstown metering station will commence being operated and maintained by ActewAGL.

According to ActewAGL, asset management service costs are projected to fall in real terms across the forthcoming access arrangement period, following an initial increase which reflects the larger network and customer base compared with that of the previous period.

Corporate services costs include such items as ActewAGL’s finance and legal services, business systems, audit costs and chief executive and commercial executive services. According to ActewAGL an initial increase in these costs is necessary to take account of additional legal and regulatory support services, with costs to be stable in real terms beyond 2004–05.

All controllable costs, with the exception of corporate overheads, are provided by Agility under contractual arrangements to ActewAGL.

7.4 Issues paper responses

7.4.1 Forecasting operating expenditure

ActewAGL considers that trends in historical non-capital expenditure are relevant for forecasting non-capital expenditure. ActewAGL's forecasts are a function of key expenditure drivers in the 2001 access arrangement period and additional factors or changes expected in the forthcoming access arrangement period.

ActewAGL considers that market growth will continue to be the key driver of non-capital costs in the forthcoming access arrangement period, and has therefore used the non-capital cost growth formula approved by the commission for the 2001 access arrangement to forecast non-capital costs for the forthcoming access arrangement period. It has increased asset services and asset management costs in line with total market growth, with equal weightings for growth in customer numbers and volumes. Marketing costs increase in line with growth in the tariff segment of the market only.

Corporate overheads do not increase with the growth formula, but are instead held constant at the real 2004–05 level. ActewAGL considers this assumes an efficiency improvement, as no allowance is made for increases in employee costs above the consumer price index (CPI), despite current projections showing wage increases above inflation.

ActewAGL has submitted that allowing a trend based on market growth, with adjustments for specific changes such as changes in the scope of operations, has been the approach adopted by most regulators of Australian gas networks, including IPART in New South Wales, the ESCV and the Queensland Competition Authority.

7.4.2 Performance indicators

The key performance indicators presented by ActewAGL (shown in Table 7.4) were selected by ActewAGL on the basis that they were used in the 2001 access arrangement information and are commonly used in assessments of gas access arrangements and shown in access arrangement information documentation.

Table 7.4 Key performance indicators for ActewAGL's gas distribution system, 2001–10 (\$ 2004–05)

Year ending 30 June	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Opex/customer	150.0	130.9	129.7	119.2	134.4	130.7	128.9	125.5	122.3	113.2
Opex/km	3,611.3	3,234.9	3,311.5	3,117.4	3,591.4	3,550.1	3,549.8	3,503.4	3,449.8	3,398.7
Opex/TJ	1,908.3	1,751.1	1,784.2	1,630.4	1,837.2	1,805.2	1,795.7	1,762.3	1,728.4	1,695.7

Opex = total non-capital costs.

ActewAGL agreed with the commission's 2000 draft decision that there are many possible performance indicators, each with limitations. ActewAGL suggests a range of indicators should be used, if possible, and different operating environments should be taken into account when making comparisons across service providers.

The performance indicators used by the commission in the draft decision for the 2001 access arrangement are shown in Table 7.5. The table also shows other relevant statistics for each service provider.

Table 7.5 Industry operating costs and statistics (\$ 2002–03)

Company	AGLGN	AGL (ACT)	Envestra	Envestra	Multinet	Stratus	Westar
State	NSW	ACT	SA	Qld	Vic	Vic	Vic
Year	1999	1999	1999	1999	1999	1999	1999
Statistics							
Customer #s	751,613	64,912	329,412	74,790	587,179	416,327	410,976
Km of lines	21,589	3,410	6,892	2,046	8,601	7,314	7,195
Sales volume (TJ)	101,469	5,115	46,178	10,639	87,730	57,053	62,594
Customers/km	35	19	48	37	68	57	57
Deliveries (TJ/km)	5	2	7	5	10	8	9
Utilisation (TJ/Cust)	0.14	0.08	0.14	0.14	0.15	0.14	0.15
Total O&M costs (\$m)	104.5	12.5	37.7	10.0	51.4	45.8	37.8
Opex ratios							
Opex/customer	139	192	114	133	87	110	92
Opex/km	4,842	3,651	5,468	4,879	5,973	6,257	5,254
Opex/del	1,030	2,434	816	938	586	802	604

Source: Independent Pricing and Regulatory Commission (IPRC), Access Arrangement for AGL Gas Company (ACT) Limited and AGL Gas Networks Limited Natural Gas System in ACT, Queanbeyan and Yarrowlumla, March 2000.

ActewAGL provided updated performance indicators and related statistics (shown in Table 7.6), sourced from annual reports and access arrangement information documents for each service provider, in its response to the issues paper.

Table 7.6 Industry operating costs and statistics—recent data (\$ 2002–03)

Company	AGLGN	ActewAGL	Envestra	Envestra	Multinet	TXU	Envestra	Allgas
State	NSW	ACT	SA	Qld	Vic	Vic	Vic	Qld
Year (end 30 June)	2003	2003	2002	2003	2003	2003	2003	2003
Statistics								
Customers	892,920	92,656	350,488	73,736	631,637	466,277	459,555	58,979
Km of lines	22,880	3,628	6,897	2,026	9,100	8,000	7,943	1,843
Sales (TJ)	97,127	6,734	41,800	13,300	60,653	–	53,600	9,992
Customers/km	39	26	51	36	69	58	58	32
Deliveries (TJ/km)	4.25	1.86	6.06	6.56	6.67	–	6.75	5.42
Utilisn (TJ/Cust)	0.11	0.07	0.12	0.18	0.10	–	0.12	0.17
Total O&M (\$m)	93.0	10.0	37.3	10.6	51.1	44.6	43.6	8.2
(excl tax and UAG)								
Opex ratios								
Opex/cust (\$)	104	108	106	144	81	96	95	139
Opex/km (\$)	4,065	2,764	5,408	5,252	5,615	5,575	5,489	4,449
Opex/TJ (\$)	958	1,489	892	800	842	–	813	821

Source: ActewAGL response to the 2004 issues paper, p. 13.

ActewAGL presented that the information in these tables shows that it has improved its performance since 1999, and illustrates the influence of market characteristics such as customer density.

ActewAGL has submitted that in 1999 its operating costs per customer and per terajoule delivered were relatively high, but costs per kilometre of lines were the lowest among the distributors shown. Over the four-year period to 2003, ActewAGL's operating cost per customer has reduced by around 44 per cent in real terms. ActewAGL's operating costs per customer in 2003 compare favourably with those of other distributors with higher customer density. Lower density tends to increase costs per customer, as fixed costs must be spread across a smaller customer base. The Victorian distributors have the densest networks and also the lowest costs per customer.

ActewAGL suggests its operating costs per kilometre remain much lower than those of other Australian gas distribution businesses. Operating costs per terajoule delivered remain relatively high, reflecting the fact that

ActewAGL serves a market comprising mainly small customers (terajoules per delivery are the lowest of those shown in Table 7.6).

ActewAGL considers the performance indicators presented are useful benchmarks for efficient organisations, provided they are used in conjunction with further information about differences in operating environments.

7.4.3 Efficiency improvements

ActewAGL suggests its proposed 1.5 per cent efficiency improvement is appropriate, representing a significant ongoing commitment to reduce costs and build on the improvements already achieved.

ActewAGL considers further constraints on operating costs would impose considerable risks that basic maintenance and safety requirements for the network would be compromised. ActewAGL states it is committed to maintaining its industry position as a highly efficient gas distribution business with a strong record in safety and service provision.

7.4.4 Marketing expenditure

ActewAGL has suggested that marketing is an essential strategy for encouraging gas demand and ensuring efficient use of network capacity, and that its marketing expenditure is for specific programs designed to increase use of the network and generate additional throughput and revenue.

ActewAGL has submitted that marketing expenditures which are designed to increase throughput and reduce average prices for users should be included in allowed costs.

ActewAGL considers its proposed marketing expenditure is within the reasonable bounds identified by the commission in its 2000 final decision. In its 2000 final decision, the commission noted that, for other gas distributors, marketing costs ranged from 2 per cent to 17 per cent of non-capital costs. ActewAGL was allowed marketing expenditures above this range for the 2001 access arrangement period, as the commission concluded that a higher level may be warranted where particular factors impact adversely on ActewAGL. ActewAGL suggests its forecast marketing expenditures for 2005 to 2010 represent an average of 13 per cent of total non-capital

expenditure for each year—within the range identified by the commission as reasonable in the 2001 final decision.

On this basis, ActewAGL considers the projected level of marketing expenditure is reasonable and should be included in the non-capital cost forecasts.

7.4.5 Unaccounted for gas

Unaccounted for gas (UAG) is gas necessary to make up for gas lost or unaccounted for in the network, and is treated as part of the network's operating costs.

Under existing UAG arrangements, reference tariffs were calculated on the assumption of a UAG rate of 0.7 per cent. ActewAGL reimburses retailers for the difference between gas received at the receipt point and delivered at delivery points. ActewAGL thus has a financial incentive to operate the system efficiently and minimise UAG.

In its proposed access arrangement, ActewAGL has forecast costs associated with UAG of between \$260,000 and \$310,000 per year over the forthcoming access arrangement period. It estimated actual costs associated with UAG in 2004 to be \$100,000. ActewAGL's access arrangement information indicates ActewAGL has assumed a UAG level of 1.5 per cent in developing its proposed access arrangement. However, ActewAGL has subsequently indicated to the commission that the level assumed is 0.7 per cent.

7.4.6 Cost allocation

ActewAGL has submitted that its proposed reference tariffs are calculated in accordance with the principles in section 8 of the Code, using a price path approach, and fixed for duration of the forthcoming access arrangement period. This approach provides incentives for ActewAGL to increase demand and reduce costs during the period.

ActewAGL suggests that, as required by section 8.38 of the Code, the tariff for each reference service is designed to cover those costs which can be directly attributable to providing the service plus a share of joint costs, where the share is determined in line with the objectives of section 8.1 of the Code.

ActewAGL has submitted that joint costs for ActewAGL's individual businesses are allocated in a way that ensures that costs are not inappropriately loaded onto ActewAGL's regulated activities, that the cost of assets used by more than one regulated business is allocated appropriately between the businesses, and only the allocated cost is recovered from regulated charges.

According to ActewAGL, the costs have been allocated based on services provided to the various divisions under the 'fixed price service contract' budgeted charges. These are agreed charges developed between the corporate divisions, service providers and various operating businesses of ActewAGL. The agreements attribute the cost of corporate services, shared services and other corporate overhead costs to the operating business. These charges are fixed at the beginning of the year according to the expected use of services and a proportion of corporate overhead costs. ActewAGL bases the allocation of costs on certain cost drivers that provide an indication of the consumption of such services by each operating business.

As far as possible, the costs of corporate areas and shared service areas are directly attributed to divisions using those services. Expenditure incurred relating to a specific division is charged to that division. Costs not directly attributable to a division are attributed using the most appropriate and practicable cost driver. The basis of cost attribution for shared services is summarised in Table 7.7.

Table 7.7 ActewAGL fixed price service contracts—basis of attribution

Provider and service	Basis of attribution
<i>Corporate Divisions</i>	
Audit services	Estimated effort on planned internal audit program projects and attributed to areas based on which area the work relates to
CEO Office	Estimated effort of the CEO's office in dealing with issues arising from Division's activities
Commercial Executive	Estimated effort on planned commercial projects and attributed to areas based on which area the work relates to
Finance	Estimated effort on projects and ongoing management and corporate governance issues
Human Resources	Number of staff in each Division
Legal and Secretariat	Estimated effort on projects and ongoing activities based on areas issues are arising or Division being provided with the service
Corporate Facilities	Square metres of space occupied by each Division
<i>Business Systems Division</i>	
Customer services	Number of calls received and made
IT Infrastructure	Number of PCs, servers, communications and computer equipment utilising the IT infrastructure
Applications	Estimated effort by application maintained and supported attributed to the user supported
<i>Energy Networks Division—Logistics</i>	
Warehousing	Square metres used and staff time of removal and other jobs
Processing and Support	Staff time to each division using services
Fleet	Number of vehicles in each Division
<i>Energy Networks Division—Gas</i>	
Management fee	Management of the Gas Networks previously part of Commercial Executive
<i>Retail partnership</i>	
Customer accounts	Volume of each service used by divisions
Communications and Marketing	Estimated effort on projects attributed to the Divisions using those projects

Source: ActewAGL response to the 2004 issues paper, p. 18.

ActewAGL has submitted that a review of its cost allocation methodologies by consultants for the commission (Burns and Roe Worley and others) in 2003 concluded that most of the cost drivers and the basis of allocation used by ActewAGL were appropriate.

ActewAGL has allocated non-capital costs to the tariff and non-tariff markets using activity-based costing. Capital costs (including a return on

capital and depreciation) are shared between contract and tariff customers based on the share of assets used by the customer group. This is the same approach as adopted by ActewAGL in the 2001 access arrangement period.

According to ActewAGL, joint costs occur in three areas as illustrated in Table 7.8.

Table 7.8 ActewAGL joint cost areas

Areas with joint costs	Functions	Quantum, \$ million
Corporate	CEO, audit, business systems (IT), commercial executive, legal and secretariat, financial services, human resource services, and facilities	\$29.6
Electricity distribution		\$3.2
Retail	Billing and revenue collection, advertising and marketing, customer service	\$13.1

CEO = Chief Executive Officer, IT = information technology.

In total, ActewAGL has categorised \$45.9 million as joint costs, a portion of which will need to be allocated to the gas distribution business.

Table 7.9 summarises ActewAGL's allocation of joint costs to all operating businesses and sets the context against the 2004–05 budgeted total operating and maintenance costs and revenue. In total, the allocation of joint costs to gas distribution accounts for some 4.4 per cent of revenue and 13 per cent of operating and maintenance costs.

Table 7.9 ActewAGL allocation of joint costs (\$ million), real 2004–05

	Gas distribution	Water service	Electricity distribution	Retail	EcoWise
Allocated joint cost	1.9	16.5	16.5	10.0	0.4
Total O&M cost	13.5	39.4	66.2	–	–
Revenue	39.7	95.1	149.0	–	–

7.4.7 Ring fencing

In its response to the commission's issues paper, ActewAGL has submitted that the commission's requirements for ring fencing set out in the Ring

Fencing Guidelines for Gas and Electricity Network Service Operators in the ACT are appropriate for a multi-utility operation and consistent with the requirements of the Code, and that no changes to the guidelines are warranted.

ActewAGL noted that the commission's consultants' review in 2003 stated:

The policies adopted by ActewAGL for its Gas Distribution business largely comply with the ICRC ring-fencing guidelines. ActewAGL has also developed and imposed appropriate policy requirements on Agility, its Gas Distribution contractor, in order to meet ActewAGL's ring-fencing obligations and to ensure that the actions of Agility do not cause ActewAGL to breach these guidelines (BRW et al, 2003 p. 57).

On this basis, ActewAGL does not believe there are any issues arising from the ring fencing guidelines which are relevant to the commission's assessment of the proposed access arrangement.

7.5 Consideration of issues

7.5.1 Forecasting operating expenditure

Section 8.37 of the Code requires that non-capital costs as recovered by reference tariffs not exceed the costs that would be incurred by a prudent service provider, acting efficiently, in accordance with accepted good industry practice, and with a view to achieving the lowest sustainable cost in delivering the reference service. In addition, as noted in Section 7.1 above, where forecast costs are used in setting reference tariffs, under section 8.2(e) of the Code, the commission must be satisfied in determining to approve a reference tariff that forecasts used in setting the reference tariff represent best estimates arrived at on a reasonable basis.

To assist its consideration of these matters the commission engaged MMA to:

- assess the prudence of ActewAGL actual 2004 and forecast 2005–10 operating expenditure (as displayed in Table 7.3)
- advise the commission on whether or not ActewAGL's forecast costs represent those that would be incurred by a prudent service provider

acting efficiently in accordance with the requirements of section 8.37 of the Code

- assess whether the basis on which ActewAGL allocated joint costs between services was fair and reasonable.

The commission reviewed the analysis provided by MMA and the requirements of the Code and agreed that ActewAGL’s forecast costs for corporate overheads, non-system asset charges, other direct (controllable) costs, government levies, contestability costs and other (uncontrollable) costs are those that represent best estimates arrived at on a reasonable basis.

In respect of asset services and asset management, operating and maintenance, marketing and UAG costs, the commission accepts MMA’s analysis that the forecasts provided by ActewAGL should be revised in order not to exceed those that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice.

7.5.2 Asset services, asset management

ActewAGL has presented the operating and maintenance expenditure over the forthcoming access arrangement period in two expenditure items:

- asset services
- asset management.

The forecasts of these expenditure items that have been provided by ActewAGL are presented in Table 7.10.

Table 7.10 ActewAGL asset management and services expenditure, forecast, 2005–2010

Year ending 30 June	\$ million, real 2004–2005						
	Actual 2004	2005	2006	2007	2008	2009	2010
Asset services	4.18	4.46	4.52	4.75	4.80	4.84	4.87
Asset management	2.85	3.10	3.08	3.02	2.97	2.89	2.83
O&M	7.03	7.56	7.60	7.77	7.77	7.73	7.70

In considering the operating and maintenance costs proposed in ActewAGL's access revision the commission must be satisfied that the forecasts of those costs have been arrived at using best estimates and are based on reasonable assumptions; and must also be satisfied that the access arrangement does not include recovery of costs that would not be incurred by a prudent service provider, working efficiently, in accordance with accepted and good industry practice and to achieve the lowest sustainable cost of delivering the reference service.

The commission has adopted the approach of calculating an efficient level of operating and maintenance costs for 2004 and using this as a base to roll forward to future years. To satisfy the commission that the Code requirements had been met, ActewAGL provided the following explanation of the forecast operating and maintenance costs:

- the expenditure has been adjusted for growth in accordance with the 2000 final decision with an assumed efficiency factor of 1.5 per cent
- in 2007 there is an increase in the asset services costs because responsibility for the operations and maintenance of the Hoskinstown metering station transfers from Duke Energy to ActewAGL.

To ensure that the Code requirements were fully met the commission employed MMA and ECG to review the operating and maintenance forecasts as part of a full review of the capital and non-capital costs proposed by ActewAGL in its revisions document.

The consultants recommended that the prudent expenditure for operating and maintenance in the final year of the 2001 access arrangement was \$6.36 million, which included an allowance for the direct and overhead costs incurred by Agility in providing services to ActewAGL. However, ActewAGL's reported operating and maintenance expenditure was some 10.5 per cent higher than the amount judged to be prudent by the consultants.

As noted above, section 8.37 of the Code requires, among other things, that non-capital costs able to be recovered by reference tariffs should not exceed those that would be incurred by a prudent service provider acting efficiently. While recognising the contracts that exist between ActewAGL and Agility to provide operating and maintenance services, the commission has not been satisfied that the costs associated with the contracts are efficient or that the

costs are those that a prudent service provider would be likely to incur as per the requirements of section 8.37.

Furthermore, the commission notes submissions from ActewAGL which provided a summary of a recent report by ActewAGL's consultant, Parsons Brinckerhoff (PB), which stated:

PB is of the opinion that although ActewAGL has not achieved the controllable operating cost levels allowed by the ICRC, these variances appear to be due to additional expenditures from unforeseen events and inappropriate benchmarks assigned by the ICRC. In reality, ActewAGL's controllable operating expenditures for the period 2001 to 2004, which represents \$108 per customer, is highly competitive, relative to other gas distribution businesses, and is prudent. Simple industry comparisons suggest that for ActewAGL customer density, a figure of \$147 could be justifiable.

The commission has adopted the approach of determining an efficient level of controllable non-capital cost per customer. The controllable non-capital cost base is calculated by multiplying the efficient cost per customer by the number of customers. The efficient levels of operating and maintenance costs are calculated by subtracting the efficient level of overheads, asset charges, marketing and other costs from the calculated base.

ActewAGL's current year estimates of controllable non-capital costs and customer numbers imply a controllable non-capital cost per customer of \$113 in 2004–05 values. The controllable non-capital cost per customer calculated from the commission's consultant's data is \$105.70 and the estimate prepared by ActewAGL's consultants for 2004 is \$108 (\$110.70 in 2004–05 values).⁶

Based on these estimates, the performance of other gas distributors and information provided by ActewAGL, the commission has adopted an estimate of efficient costs per customer in 2004 of \$108 (in 2004–05 values). This represents a midpoint between the estimates of efficient costs provided

⁶ ActewAGL's forecast controllable non-capital costs of \$10.9 million were divided by the forecast 96,320 customers to calculate a cost of \$113 per customer. ECG's estimated efficient controllable non-capital costs of \$10.23 million were divided by the 96,773 customers projected by MMA to give \$105.70 per customer.

by the two engineering consultants while still being comparable with the figures for other relevant gas networks.

An efficient controllable non-capital cost per customer of \$108 represents an operating and maintenance cost of \$6.53 million for 2004 after deducting previously determined costs such as marketing, asset charge and overheads. This is in the range of the \$7.03 million proposed by ActewAGL and \$6.36 million recommended by the commission's consultant, ECG.

The efficient level of operating and maintenance costs is rolled forward at the rate suggested by ECG. This results in operating and maintenance costs in the final year of the forthcoming access arrangement period that are approximately equal to those forecast by ActewAGL.

The commission requires ActewAGL to amend its proposal regarding recovery of non-capital costs associated with operating and maintenance costs by \$0.88 million in the first year, 2005. The commission considers that this provides ActewAGL with the ability to recover the operating and maintenance costs a prudent service provider would incur in providing reference services at the lowest sustainable cost in accordance with accepted and good industry practice. The commission considers that the efficient costs which will be incurred for the period of the forthcoming access arrangement will grow at the same rate as projected in the ECG report.

Given this requirement the commission expects ActewAGL to amend its operating and maintenance costs by \$3.0 million over the forthcoming access arrangement period. The commission therefore requires ActewAGL to decrease its operating and maintenance expenditure as provided for in Table 7.11.

Table 7.11 ActewAGL and commission asset management and services expenditure, forecast 2005–10

Year ending 30 June	\$ million, real 2004–05						Total
	2005	2006	2007	2008	2009	2010	
ActewAGL	7.56	7.60	7.77	7.77	7.73	7.70	46.13
Commission	6.68	6.84	7.07	7.30	7.52	7.72	43.13
Difference	-0.88	-0.76	-0.7	-0.47	-0.21	0.02	-3.00

7.5.3 Marketing expenditure

ActewAGL proposed a 26 per cent increase in marketing expenditure between the 2004 actual of \$1.46 million and 2005 forecast of \$1.84 million.

The proposed level of marketing costs was the subject of considerable discussion during the review of the 2001 access arrangement when the commission's key performance indicator (marketing cost to operating cost ratio, marketing cost to customer ratio, marketing cost to new customer ratio) analysis suggested that ActewAGL's marketing costs were relatively high. In its 2000 final decision, the commission decided that ActewAGL's marketing costs should be reduced to \$1.8 million in 2003–04, which would equate to about 23 per cent of controllable operating expenditure. Marketing costs were actually further reduced to \$1.46 million in 2003–04.

It is noted that in its 2002 final decision on access arrangements for the Victorian gas distribution system the ESCV allowed a marketing cost to operating cost ratio of between 2.5 per cent and 3.5 per cent for the three relevant distributors. This is considerably less than the 23 per cent determined by the commission in the 2000 final decision in respect of ActewAGL's marketing costs in 2003–04. The commission believes that the information presented by ActewAGL is insufficient to justify the step increase in marketing expenditure between 2003–04 and 2004–05. The commission believes the current levels of marketing expenditure are those that would be incurred by a prudent service provider operating in an efficient manner. As such the commission recommends that marketing expenditure be maintained at the current 2003–04 level of \$1.46 million.

Table 7.12 shows ActewAGL's forecast marketing expenditure compared with the marketing expenditure that the commission considers to be consistent with the requirements of section 8.37 of the Code.

Table 7.12 ActewAGL and commission projected marketing expenditure, 2005–10

Year ending 30 June	\$ million, real 2004–05							Total 2005–10
	Actual 2004	2005	2006	2007	2008	2009	2010	
ActewAGL	1.46	1.84	1.87	1.89	1.9	1.93	1.95	11.38
Commission	1.46	1.46	1.46	1.46	1.46	1.46	1.46	8.76
Difference	0	-0.38	-0.41	-0.43	-0.44	-0.47	-0.49	-2.62

Source: MMA report, 28 June 2004, pp. 159 and 164.

7.5.4 Unaccounted for gas

During the 2001 access arrangement period, ActewAGL experienced the following UAG levels.

Table 7.13 ActewAGL actual unaccounted for gas levels, 2000–03

Year	2000	2001	2002	2003
UAG	1.10%	1.56%	0.90%	0.77%

Table 7.13 shows that for the 2001 access arrangement period, UAG varies from 1.56 per cent to 0.77 per cent. The commission's consultants have recommended that the UAG for a prudent operator should be in the range of what is currently experienced, and therefore propose a UAG of 1 per cent of volume. This is approximately the mid point of the range currently experienced.

ActewAGL has indicated its costs may rise as it is currently seeking tenders for the supply of UAG and expects that the tendered price may increase costs significantly. ActewAGL has claimed that tendered prices received for operations gas are in excess of \$5.00 per GJ; however, no estimate of the likely UAG cost has been provided to the commission's consultants. ActewAGL's submissions imply a cost of about \$2.50 per GJ, showing an increase compared with the \$1.73 price per GJ in 2002–03. The commission considers that this may not be unreasonable given the price of operations gas.

As no formal advice on the result of the tendering process has been received by the commission, the commission proposes that the UAG expenditure allowance incurred by a prudent service provider would be 1.0 per cent UAG as opposed to that proposed by ActewAGL of 1.5 per cent. The adoption of 1.0 per cent represents an increase from the 0.7 per cent UAG used in the 2001 access arrangement. Assuming a cost of \$2.50 per GJ, the cost of UAG thought prudent is that provided in Table 7.14 below.

Table 7.14 shows ActewAGL's forecast UAG expenditure compared with the UAG expenditure that the commission considers to be consistent with the requirements of section 8.37 of the Code.

Table 7.14 ActewAGL and commission actual and projected unaccounted for gas expenditure, 2004–10

Year ending 30 June	\$ million, real 2004–05							Total 2005–10
	Actual 2004	2005	2006	2007	2008	2009	2010	
ActewAGL	0.1	0.26	0.26	0.28	0.29	0.29	0.31	1.69
Commission	0.1	0.17	0.17	0.19	0.19	0.19	0.21	1.12
Difference	0	-0.09	-0.09	-0.09	-0.1	-0.1	-0.1	-0.57

7.5.5 Cost allocation

Cost allocation needs to be undertaken whenever joint costs exist. Joint costs are incurred when services, processes, materials or equipment are used to produce more than one output, product or service. A multi-utility such as ActewAGL provides electricity distribution, gas distribution, water and wastewater services and energy retail services. Many costs, including corporate and marketing services, therefore have the potential to be considered as joint costs.

Section 8.38 of the Code requires costs to be allocated between users and services on a basis that is consistent with the principles of section 8.1 of the Code, and is otherwise fair and reasonable.

The allocation of costs between different parts of a business is often arbitrary and can be controversial. Where there are direct cost drivers, costs can be causally allocated. However, indirect costs, such as the cost of the corporate support functions, often do not have a simple cost driver. This creates the more complex task of attempting to allocate joint costs which are not directly attributable. Proxies must then be found to form the basis for allocation. The key then is to determine an activity-based allocator which most closely reflects the actual cost drivers.

Joint costs need to be appropriately attributed or allocated to the various ActewAGL operating businesses—electricity distribution, gas distribution, water and wastewater services, retail and any other related business activities—to enable accurate cost recovery and to eliminate potential cross-subsidisation between different regulated businesses and between regulated and unregulated services. The commission is concerned that appropriate cost allocation should apply to apportion costs between ActewAGL’s regulated

businesses and its gas retail and gas distribution businesses. Inappropriately allocating costs from retail to gas distribution will not only inflate the level of regulated costs to be recovered from gas distribution customers but may also distort gas retail competition to the detriment of other gas retail providers.

The commission engaged MMA to review ActewAGL's corporate cost allocation policy. In its final report to the commission, MMA found:

In general, it appears that ActewAGL has attempted to accurately reflect the costs incurred in their joint cost centres by allocating costs to the appropriate areas. There is no reason to believe that allocations from the CEO, Audit, Business Systems, Commercial Executive, Legal & Secretariat, Financial Services, Corporate Facilities and Electricity Networks are not reasonable. Benchmarking of certain aspects of the allocations shows that most of ActewAGL's allocation falls within the benchmark boundaries.

Some concerns do arise from the allocation from Retail area. However, the allocation from this area either lies within the benchmark boundaries or are relatively minor such that any changes to the allocation will have little impact on the overall cost allocation. Accordingly, we do not recommend that any allocations need to be changed.⁷

Based on MMA's advice, the commission considers that ActewAGL's cost allocation is fair and reasonable.

7.5.6 Performance indicators

Section 8.6 of the Code provides that in order to determine appropriate values for the individual components of a cost of service methodology applied under section 8.4 (where non-capital costs are one of the 'building blocks' within this methodology), the commission may have regard to any financial and operational performance indicators it considers relevant in order to determine the level of costs within the range of feasible outcomes under section 8.4 that is most consistent with the objectives contained in section 8.1.

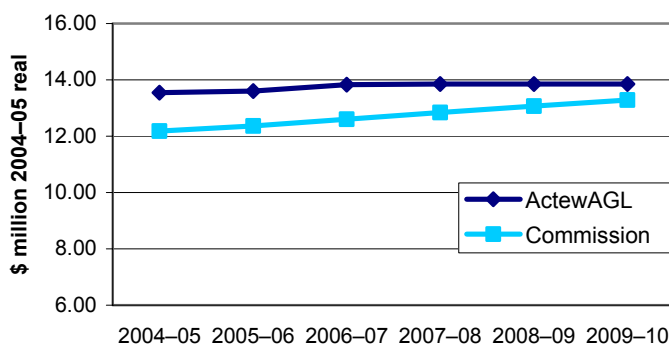
⁷ MMA, *Review of Expenditure, Demand Forecasts and Cost Attribution for ActewAGL Gas Distribution Network in the ACT, Queanbeyan and Yarrowlunla*, Final Report to Independent Competition and Regulatory Commission, 28 June 2004, p. i. This report is available on the commission's website <www.icrc.act.gov.au>.

The commission will consider performance indicators in the final decision. These indicators will include non-capital costs per customer, non-capital costs per terajoule and non-capital costs per kilometre.

7.5.7 Efficiency improvements

Figure 7.2 below shows the difference between ActewAGL’s forecast non-capital costs, and those considered prudent by the commission, over the forthcoming access arrangement period.

Figure 7.2 Trends in total non-capital costs



The commission’s forecasts result in a real non-capital cost reduction of \$7.3 million over the forthcoming access arrangement period compared with ActewAGL’s forecasts. This is illustrated in Table 7.15 below.

Table 7.15 ActewAGL and commission forecasts of ActewAGL’s non-capital costs, 2005-10

Year ending 30 June	\$ million, real 2004-05						Total
	2005	2006	2007	2008	2009	2010	
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

7.5.8 Ring fencing

Ring fencing requirements are aimed at separating business activities and decisions to ensure that monopoly businesses operating in a regulated environment do not use their monopoly power to unduly advantage an associated business operating in a competitive environment.

In the ACT, both distribution and retailing of natural gas continue to be performed by ActewAGL. This potentially allows the distribution and retail businesses to continue to maintain certain aspects of the relationship that they had before the introduction of retail competition.

This relationship, or affiliation, may give the affiliated retailer a competitive advantage that negatively affects the development of competition in the market, and ultimately reduces the benefits that gas industry restructuring and reform can bring to customers. This business affiliation may also reduce the transparency of costs that the distributor incurs in carrying out its regulated functions as a distributor, potentially allowing the retailer to transfer some of its costs to the distributor, and thereby reducing the efficiency of price regulation of the distributor's activities. Ring fencing addresses these competition and regulatory policy issues, through the application and enforcement of regulatory measures affecting the relationship between distribution and retail business activities.

Ring fencing guidelines

The commission's requirements for ring fencing in the ACT are set out in the Ring Fencing Guidelines for Gas and Electricity Network Service Operators in the ACT. These guidelines:

- aim to promote and safeguard competition and fair and efficient market conduct in the gas supply industry by stimulating competitive market conduct
- require that gas utilities have in place arrangements that ensure related businesses are not treated in such a manner as to confer a non-commercial discriminatory price or non-price advantage on the related business compared with a third party in the same commercial circumstances.

Copies of the guidelines are available on the commission's website.

The commission accepts ActewAGL’s submission that no material issues arising from the ring fencing guidelines impact on the assessment of ActewAGL’s proposed access arrangement.

7.6 Draft decision

Based on the above analysis the commission considers that the non-capital costs set out in the following table would be those incurred by a prudent service provider operating efficiently in accordance with accepted and good industry practice, and to achieve the lowest sustainable cost of delivering ActewAGL’s reference services. Accordingly, on the information available to it, the commission considers that the reference tariffs proposed by ActewAGL may provide for the recovery of the non-capital costs set out in Table 7.16.

Table 7.16 ActewAGL and commission forecasts of ActewAGL’s non-capital costs, 2005–10

Year ending 30 June	\$ million, real 2004–05						Total
	2005	2006	2007	2008	2009	2010	
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 non-capital costs set out in Table 7.17 below are those that the commission considers would be incurred by a prudent service provider operating efficiently within the ACT market.

Table 7.17 Commission's forecasts of ActewAGL's non-capital costs, 2005–10

Year ending 30 June	Actual 2004	\$ million, real 2004–05					
		2005	2006	2007	2008	2009	2010
Controllable cost							
O&M	6.53	6.68	6.84	7.07	7.30	7.52	7.72
Corporate overheads	1.69	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	0.48
Marketing	1.46	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	0.24
Total	10.40	10.78	10.94	11.17	11.40	11.62	11.82
Other allowable costs							
Government levies	0.34	0.55	0.55	0.55	0.55	0.55	0.55
Contestability costs	0	0.45	0.46	0.46	0.46	0.46	0.45
Unaccounted for gas	0.1	0.17	0.17	0.19	0.19	0.19	0.21
Other	0.23	0.24	0.24	0.24	0.24	0.25	0.25
Total	0.67	1.41	1.42	1.44	1.44	1.45	1.46
Total non-capital costs	11.07	12.19	12.36	12.61	12.84	13.07	13.28

8 Capital expenditure and the capital base

The ‘return of capital’ and ‘return on capital’ building-block components are determined, among other things, by the value of the capital base.

The capital base is usually determined in a two-step review process.

The first step consists of updating the value of the capital base at the start of the preceding access arrangement period to calculate its value at the start of the new regulatory period. This requires the regulator to take account of capital expenditure, depreciation, asset disposals and inflation over the preceding access arrangement period. Key decisions involve:

- determining whether the capital expenditure undertaken was prudent and efficient, and therefore should be included in the capital base
 - This requires an assessment of the reasonableness of the business’s decision to make particular capital investments, given the information available at the time the decision was made. If new information that affected the prudence of the investment decision became available during the implementation of a capital project, the review would also consider the reasonableness of the business’s response to the new information. The review would accept that a business may adapt its capital expenditure program during that preceding access arrangement period in the event of new information or changed circumstances. As long as changes to the capital program are considered by the regulator to have been prudent and efficient, the capital expenditure would be included in the opening capital base for the new regulatory period.
- deciding how to include capital expenditure forecast for the final year of the preceding access arrangement period
 - The two main options are usually either to adopt the most recent forecast for the final year, or use the forecast for the final year that

was prepared at the commencement of that preceding access arrangement period.⁸

- determining how regulatory depreciation will be calculated
 - The options are to adopt the forecasts of regulatory depreciation made at the commencement of that preceding access arrangement period, or to recalculate depreciation based on actual capital expenditure in that preceding access arrangement period.
- identifying whether any capital was made redundant over the preceding access arrangement period.

In the second step, the regulator assesses the proposed capital base over the new access arrangement period, taking into account:

- the opening value of the capital base calculated in the first step above
- the forecasts of capital expenditure, to determine whether they are prudent and efficient, and hence can be included in the forecast capital base for the new access arrangement period
- forecasts of depreciation, disposals, inflation and asset redundancy (if any) over the new access arrangement period.

This second step typically involves a review by an expert consultant who provides advice on the efficient amount of capital expenditure required to achieve the proposed service levels. The efficient amount of capital expenditure is assessed by a combination of internal historical benchmarking, benchmarking against similar businesses, and expert analysis. The efficient capital expenditure allowance is used as the basis for determining the total revenue requirement in accordance with the cost of service approach described in Section 6 above.

The tests under this step also implicitly require an assessment of the appropriateness of the capital expenditure program to the delivery of service outcomes to customers. In relation to renewals and maintenance expenditure, or the delivery of mandatory standard outcomes, this may be easy to

⁸ However, in this case, because the 2001 access arrangement period was originally expected to end on 30 June 2004, no forecasts for 2004 were provided in the 2000 final decision.

demonstrate. Difficulties can arise when the business decides to increase or decrease service standards without demonstrating a clear link to customers' willingness to pay for such changes.

8.1 Code requirements

8.1.1 Opening capital base

Section 8.9 of the Code generally provides for the opening capital base to reflect the capital base at the start of the preceding access arrangement period, adjusted for capital expenditure (which passes the tests in section 8.16 of the Code), depreciation and redundant capital.

The value of the regulatory capital base is used to establish the total revenue of the service provider in accordance with the approach discussed in Section 6 above. Section 8.9 of the Code states that the capital base at the commencement of each access arrangement period after the first, for the cost of service methodology, is determined as:

- (a) the Capital Base at the start of the immediately preceding Access Arrangement Period; plus
- (b) subject to sections 8.16(b) and sections 8.20 to 8.22, the New Facilities Investment or Recoverable Portion (whichever is relevant) in the immediately preceding Access Arrangement Period; less
- (c) Depreciation for the immediately preceding Access Arrangement Period; less
- (d) Redundant Capital identified prior to the commencement of that Access Arrangement Period.

An effect of section 8.9 of the Code is that once a pipeline has been initially valued under the Code, it cannot be subsequently revalued, save for the effects of the roll-forward process provided in section 8.9.

Consistent with section 8.5A, the values used in the roll-forward process can be expressed on either a nominal or a real basis.

The key provisions in the Code relating to the values used in the roll-forward process are as follows:

- new facilities investment (sections 8.15–8.17)
- redundant capital (section 8.27)
- depreciation (sections 8.32–8.35).

The specific requirements of these Code provisions are discussed below.

8.1.2 Capital investment

Section 8.16 of the Code sets out the criteria by which the capital base can be increased from the start of an access arrangement period to recognise additional capital costs incurred in the preceding access arrangement period in constructing, developing or acquiring new facilities for the purpose of providing services.

Section 8.16(a) requires that the new investment satisfy two tests, which for the purposes of this draft decision are termed a ‘prudency test’ and a ‘roll-in test’. Under the prudency test, the new investment must not exceed the amount that would be invested by a prudent service provider, acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of delivering the service.

Under the roll-in test, the new investment must satisfy one of the following conditions:

- the revenue anticipated to be generated by the additional investment exceeds the amount of the investment
 - the regulator is satisfied that the new facility has system-wide benefits that justify higher tariffs for all users
- or
- the new facility is necessary to maintain safety, integrity or contracted capacity.

Section 8.16(b) provides that if the regulator agrees under section 8.20 of the Code to reference tariffs being determined on the basis of forecast new investment, the capital base can be increased by the amount of the new investment that is forecast to occur within the new access arrangement

period, provided that the investment is reasonably expected to pass the requirements in section 8.16(a) when it is forecast to occur.⁹

Section 8.22 of the Code provides that where the regulator agrees to reference tariffs being calculated on the basis of forecast new investment, either the reference tariff policy should describe, or the regulator should determine (at the time of considering the access arrangement revisions lodged in respect of the regulatory period after the forthcoming access arrangement period), the new investment amount to be applied in terms of section 8.9 of the Code (i.e., in order to determine the capital base at the start of that subsequent regulatory period). The key options in this regard are to adopt the new investment amount as forecast, or to use the actual investment amount.

8.1.3 Depreciation

The Code requires that depreciation charges (the return of capital component of the cost of service methodology) should be designed so that:

- reference tariffs change over time in a manner consistent with the efficient growth of the market for the services (section 8.33(a))
- assets are depreciated over their economic lives (section 8.33(b)), which may differ from tax or accounting lives
- to the maximum extent reasonable, they are adjusted over the life of assets to reflect changes in their expected economic lives (section 8.33(b))
- the sum of depreciation attributable to an asset over its life is to be equivalent to the value of the asset when it first entered the capital base, subject the approach to inflation adopted pursuant to section 8.5A of the Code (section 8.33(d)).

⁹ Under section 8.20 of the Code, reference tariffs may be determined on the basis of new facilities investment that is forecast to occur within the access arrangement period, provided that the new facilities investment is reasonably expected to pass the requirements in section 8.16(a) when the new facilities investment is forecast to occur.

In applying the Code principles in relation to depreciation, the regulator is to have regard to the reasonable cash flow needs for non-capital costs, financing cost requirements and similar needs of the service provider (section 8.35).

8.1.4 Redundant capital

Section 8.27 of the Code provides that a reference tariff policy may include (and the regulator may require) a mechanism that results in the capital base being reduced where assets cease to contribute to the delivery of services, or where sales volumes fall. This is known as a ‘redundant capital policy’.

Before approving a reference tariff which includes such a mechanism, the commission is required to take into account the uncertainty such a mechanism would cause and the effect that uncertainty would have on the service provider, users and prospective users. If a reference tariff does include such a mechanism, the determination of the rate of return (under sections 8.30 and 8.31) and the economic life of the assets (under section 8.33) should take account of the resulting risk (and cost) to the service provider of a fall in the revenue received from sales of services or part of the covered pipeline.

As noted in Section 6 above, capital costs used in determining reference tariffs may be expressed on a real or nominal basis under section 8.5A of the Code.

8.2 2000 final decision

8.2.1 Initial capital base and roll-forward

In its 2000 final decision, the commission:

- set the initial capital base for ActewAGL’s natural gas pipeline system at no higher than \$175 million at 1 July 1999, in accordance with the principles in section 8.10 of the Code (relating to the setting of the capital base value for an existing pipeline when first determining tariffs for the pipeline under the Code)
- rolled forward the 1999 capital base value for the purpose of calculating the total revenue requirement over the 2001 access arrangement period,

in accordance with the procedure in section 8.9 of the Code, allowing for the effects over that access arrangement period of:

- forecast capital investment which the commission considered would meet the tests provided for in section 8.16 of the Code
- depreciation on the capital base
- the effects of forecast inflation.

The commission did not require the roll-forward of ActewAGL’s capital base to include provision for redundant capital, although it did require specific provisions in relation to redundant capital to be incorporated into ActewAGL’s reference tariff policy.

Forecast inflation was applied to the capital base and depreciation for the pipeline over the forecast 2001 access arrangement period, on the basis that the cost of service methodology used to determine ActewAGL’s total revenue was applied in real terms (where a real rate of return was applied to capital base values expressed in constant prices).

The key elements in the cost of service calculation for the 2001 access arrangement period are discussed further in the sections immediately below.

Table 8.1 below provides a summary of the cost of service elements determined by the commission in the 2000 final decision to provide the projected roll-forward of the initial capital base.

Table 8.1 Commission’s projected capital base roll-forward, 2000–2004

Year ending June	\$ million, nominal				
	2000	2001	2002	2003	2004
Opening balance	175	182.1	204.6	212.3	219.6
– add revaluation of assets	4.2	10.9	6.1	6.4	6.6
– add capital expenditure	8.4	17.4	8	7.9	6.8
– less depreciation	5.4	5.9	6.5	6.9	7.4
– less disposal	0	0	0	0	0
Indicative capital base rolled forward	182.1	204.6	212.3	219.6	225.6
Comparison with ActewAGL proposal ¹	245	250	254	257	261

¹ This is based on ActewAGL’s Revised Access Arrangement Information (RAAI) by considering the proposed funds employed capital base adjusted by net working capital.

Source: IPARC, Final Decision Access Arrangement for ActewAGL Natural Gas System in ACT, Queanbeyan and Yarrowlumla, November 2000.

8.2.2 Capital expenditure

In determining the capital value to be rolled forward for the 2001 access arrangement period the commission determined that:

- historical capital expenditure for 1999–2000 and the commission’s allowed capital expenditure (see Table 8.1) would be used to roll forward the capital base and to set reference tariffs
- growth capital expenditure would be based on the final decision on demand/customer growth
- system reinforcement capital expenditure would be as revised by ActewAGL
- renewal/replacement and non-system capital expenditure would be as per ActewAGL’s original proposal
- EGP interconnection capital expenditure of \$14.17 million would be allowed, and be recovered from all users of the ACT system
- an efficiency adjustment of 3 per cent would apply to all capital expenditure proposed, except the EGP interconnection capital expenditure.

As a result of determining these matters, the commission required the capital expenditure amounts as originally forecast by ActewAGL to be adjusted to:

- exclude capital expenditure associated with contestability (real 2000–01 \$0.72 million in 1999–2000)
- reflect the actual capital expenditure for 1999–2000
- reflect the revised growth and system reinforcement forecasts as per Table 8.1 above
- include the revised EGP connection capital expenditure proposal.

Details of the capital expenditure amounts determined by the commission in relation to particular asset types, and the aggregate effects of the adjustments, are set out in Table 8.2 below.

Table 8.2 Final decision forecast capital expenditure (\$ million 2000–01)

Year ending June	2000 ²	2001	2002	2003	2004	Total ^{1,4}
Renewal/replacement						
High pressure	0.0	0.0	0.0	0.0	0.0	0.0
M/L pressure tariff	0.0	0.0	0.0	0.0	0.0	0.0
Meters/Regs/Filters	0.0	0.8	0.9	1.3	0.5	3.5
Non-system assets	0.3	0.5	0.4	0.5	1.2	2.9
Subtotal	0.3	1.3	1.3	1.8	1.7	6.4
Growth related						
M/L pressure tariff	4.0	2.6	3.0	3.3	3.3	16.3
System reinforcement	0.6	2.8	3.5	2.3	1.2	10.5
EGP connection	3.7	10.6	0.0	0.0	0.0	14.3
Final decision capex ^{3,5}	8.6	17.4	7.8	7.4	6.2	47.4
Original Proposal ⁶	6.3	6.8	5.2	5.5	5.2	29.0
Corrected August 99 proposal ⁶	6.5	7.0	5.5	5.7	5.6	30.3

1 Figures may not add up to subtotals and totals due to rounding.

2 The values for the year 2000 are the actual level of capex.

3 The final decision capex includes an efficiency reduction of \$0.84 million over the four years from 2001 to 2004.

4 The capex forecast is before the net impact of the GST.

5 For tariff setting purposes the commission has decided to use the 2000 actual capex.

6 ActewAGL's original and corrected proposals do not include capex associated with the EGP connection.

In determining the forecast capital expenditure amount for the 2001 access arrangement period the commission stressed that actual capital expenditure consistent with its forecast capital expenditure would not be included automatically in the capital base at the start of the next access arrangement period, and indicated that, consistent with the Code, it would consider whether the investment decision had been prudent at the next review.

The commission's conditions in relation to the EGP required ActewAGL to connect to the EGP and allow for third-party access by 1 July 2001 (unless the period were extended by ActewAGL notifying the commission that delay had been caused through factors beyond ActewAGL's control, detailing the nature of these factors).

The commission permitted ActewAGL to recover the allowed capital expenditure relating to the EGP lateral from all the gas users in the ACT, Queanbeyan and Yarrowlumla.

8.2.3 Redundant capital

While no adjustment for redundant capital was made by the commission in relation to ActewAGL's capital base roll-forward for the 2001 access arrangement period, the commission required specific provisions in relation to redundant capital to be incorporated into ActewAGL's reference tariff policy. Those provisions, to take effect from the start of the next access arrangement period (being this forthcoming access arrangement period), would permit the commission to adjust the capital base by an amount representing:

- any assets that in the reasonable opinion of the commission have ceased to contribute to the delivery of services
- any assets that in the reasonable opinion of the commission are likely to cease to contribute to the delivery of services
- any assets that have been transferred by ActewAGL or in relation to which ActewAGL has entered into a binding agreement for transfer
- any assets that in the reasonable opinion of the commission have decreased in value because of a decrease in utilisation resulting from a decline or likely decline in the volume of sales of the service

or

- any assets that in the reasonable opinion of the commission have decreased in value because of a likely decrease in utilisation resulting from a decline or likely decline in the volume of sales of the service.

In assessing a reduction in the capital base due to a decreased utilisation of assets resulting from a decline in the volume of sales of a service, the commission may take into account the reduction in total revenue and any possible increase in tariffs paid by users resulting from the decline in utilisation of assets.

In adopting the above mechanism for capital redundancy, the commission assessed the uncertainty that such a mechanism would cause and the impact on ActewAGL, users, and prospective users. These effects were taken into account by the commission in determining ActewAGL's rate of return for the 2001 access arrangement period.

8.2.4 Depreciation

The commission's 2000 final decision required depreciation charges used in the capital base roll-forward process to be calculated based on:

- the capital base as established by the commission at 1 July 1999 and subsequently rolled forward according to the procedures set out in the final decision
- the economic asset lives adopted by the commission
- the capital expenditure allowed by the commission in its 2000 final decision (as discussed in Section 8.2.2 above).

The commission's 2000 final decision required ActewAGL to adopt the economic asset lives listed in Table 8.3.

Table 8.3 Commission's 2000 estimates of economic life of assets

Asset	Life (years)
High-pressure and medium-pressure pipes	80
High-pressure services	80
Medium-pressure services	50
Regulators and valves	50
Contract and tariff meters	15
Non-system assets	To be consistent with the categories and lives adopted for financial reporting.

8.2.5 Inflation

Consistent with the cost of service methodology used to determine ActewAGL's total revenue being applied on a real basis, the commission was required to determine forecast inflation to be applied to the capital base being rolled forward over the 2001 access arrangement period.

The commission permitted ActewAGL to index its capital base over the 2001 access arrangement period by the CPI inclusive of the goods and services tax (GST). The CPI values permitted were those set out in Table 8.4 below.

Table 8.4 Inflation forecasts, 2000–04

Year ending 30 June	2000	2001	2002	2003	2004
CPI forecast, inclusive of GST impact %	2.4	6.0	3.0	3.0	3.0

In its 2000 decision, the commission emphasised that subject to the Code all the values it had determined for the capital base roll-forward over the 2001 access arrangement period were indicative only. At the expiry of that access arrangement period, the rolled forward capital base would be reconsidered under the relevant provisions of the Code.

8.3 ActewAGL proposal

8.3.1 Opening capital base and roll-forward

ActewAGL has set out its calculation of the opening capital base for the forthcoming access arrangement period based on the effect of its actual capital expenditure, depreciation and disposals and actual inflation on the initial asset base over the 2001 access arrangement period, as shown in Table 8.5 below.

Table 8.5 ActewAGL capital base roll-forward, 2000–04

Year ending 30 June	\$ million, nominal				
	2000	2001	2002	2003	2004
Opening balance	175.0	182.4	198.6	209.6	219.6
Plus capital expenditure	8.6	12.7	10.9	9.3	7.4
Less depreciation	5.5	5.8	5.8	6.3	6.7
Less disposals	0.0	1.9	0.0	0.1	0.0
Plus indexation	4.3	11.2	5.9	7.1	5.6
Roll-forward amount	182.4	198.6	209.6	219.6	225.9

In determining the opening capital base, ActewAGL has:

- indicated that all expenditure undertaken met the requirements of section 8.16 of the Code
- based depreciation on the actual level of capital expenditure, rather than using the depreciation forecast made in 2000
- used the most recent forecast of capital expenditure for 2004
- netted off capital contributions
- adopted the actual (and forecast) CPI (All Groups index for the weighted average of eight capital cities).

In aggregate, ActewAGL's capital expenditure in the 2001 access arrangement period has been almost identical to that forecast in 2001 (as shown in Table 8.6), although annual differences have occurred due to higher than expected growth capital (customer numbers exceeded projections by more than 5,000), and timing issues associated with connection to the EGP and ActewAGL's network reinforcement project.

Table 8.6 Commission forecast and actual ActewAGL capital expenditure, 2000–04

Year ending 30 June	\$ million, real 2004–05					Total 2000–04
	2000	2001	2002	2003	2004	
Final decision	9.3	18.8	8.3	7.8	5.6	49.8
Actual capital expenditure	9.6	14.2	11.7	9.8	7.4	52.7
Difference	0.3	-4.6	3.4	2.0	1.8	2.9

Source: MMA Review of demand forecasts, cost allocation, and expenditure, p. 106.

In accordance with section 8.16 of the Code, the commission has assessed the prudence of the expenditure incurred in the 2001 access arrangement period. The commission has also investigated whether any capital was made redundant during the 2001 access arrangement period and should be removed from the capital base in accordance with ActewAGL's redundant capital policy.

ActewAGL has set out its calculation of the forecast capital base for the forthcoming access arrangement period as shown in Table 8.7.

Table 8.7 ActewAGL forecast capital base, 2005–10

Year ending 30 June	\$ million, nominal					
	2005	2006	2007	2008	2009	2010
Opening balance	225.9	236.6	244.6	252.6	261.0	272.7
Plus capital expenditure	12.4	10.1	9.7	9.1	12.5	8.3
Less depreciation	7.4	8.1	8.6	8.4	8.8	9.0
Less disposals	0.1	0.1	0.1	0.1	0.1	0.1
Plus indexation	5.8	6.1	7.0	7.8	8.1	8.3
Roll-forward amount	236.6	244.6	252.6	261.0	272.7	280.2

The capital base roll-forward procedure in Table 8.7 above in relation to the forthcoming access arrangement period embodies the same cost of service methodology expressed on a real basis as applied during the 2001 access arrangement period.

8.3.2 Capital investment

ActewAGL's forecast capital expenditure by asset use category is shown in Table 8.8 below.

Table 8.8 ActewAGL forecast capital expenditure, 2005–10

Year ending 30 June	\$ million, real 2004–05					
	2005	2006	2007	2008	2009	2010
Distribution system capex						
Growth market expansion	6.09	5.74	5.61	5.41	5.49	5.40
Growth capacity development	1.71	2.88	2.33	1.77	4.42	0.72
Stay in business	2.52	1.28	1.34	1.28	1.36	1.02
Total distribution system	10.32	9.90	9.28	8.46	11.27	7.24
Non-system capex						
Gas networks GIS system	0.50	0.00	0.00	0.00	0.00	0.00
Capitalisation of regulatory costs	1.60	0.00	0.00	0.00	0.00	0.00
Total non-system capex	2.10	0.00	0.00	0.00	0.00	0.00
Total capex	12.42	9.90	9.28	8.46	11.27	7.24

Source: ActewAGL Access Arrangement for the ActewAGL Gas Distribution System Proposed Revisions, p. 17.

The forecast capital expenditure by asset type proposed by ActewAGL is shown in Table 8.9 below.

Table 8.9 ActewAGL forecast capital expenditure, by asset type, 2005–10

Year ending 30 June	\$ million, real 2004–05					
	2005	2006	2007	2008	2009	2010
Distribution system capex						
High-pressure mains	0.00	2.72	2.14	0	2.33	0.53
High-pressure services	0.00	0.00	0.00	0.00	0.00	0.00
Medium-pressure mains	2.87	2.65	2.72	2.71	3.02	2.81
Medium-pressure services	2.75	2.49	2.39	2.30	2.30	2.22
Regulators, valves	1.63	0.07	0.00	1.59	1.69	0.10
Contract meters	0.20	0.05	0.08	0.01	0.02	0.03
Tariff meters	2.87	1.92	1.95	1.85	1.91	1.55
Total distribution system	10.32	9.90	9.28	8.46	11.27	7.24
Non-system capex						
Gas networks GIS system	0.50	0.00	0.00	0.00	0.00	0.00
Capitalisation of regulatory costs	1.60	0.00	0.00	0.00	0.00	0.00
Total non-system capex	2.10	0.00	0.00	0.00	0.00	0.00
Total capex	12.42	9.90	9.28	8.46	11.27	7.24

Source: ActewAGL Access Arrangement for the ActewAGL Gas Distribution System Proposed Revisions, p. 16.

In forecasting capital expenditure over the forthcoming access arrangement period, ActewAGL has:

- based growth market expansion expenditure forecasts on market growth forecasts of annual quantity for the tariff and contract markets, and MDQ for the contract market
- based growth capacity development expenditure forecasts on network performance validation, used to identify the needs and opportunities to reinforce the system to provide for growth, and enhance supply reliability and security
- based stay-in-business expenditure forecasts on detailed engineering and design analysis of condition of assets and on meeting statutory requirements

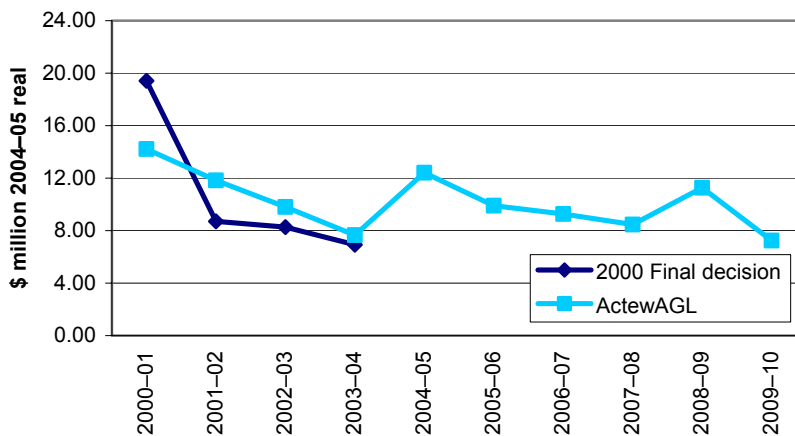
- stated that its forecast expenditure does not exceed the amount that would be invested by a prudent service provider acting efficiently and in accordance with good industry practice
- advised that, as part of its asset management services, Agility has established a capital prudence process to review each type of capital expenditure
- conducted network validation in accordance with its technical policies to verify its network models and establish current network capability for its primary and secondary high-pressure systems and for its medium-pressure distribution systems
- defined the standard operating pressures to be maintained in its systems, as set out in Table 8.10.

Table 8.10 Standard operating pressures to be maintained

	Max. allowable operating pressure (kPa)	Normal operating system min. pressure (kPa)	Emergency system min. pressure (kPa)	Standard metering pressure (kPa)
Primary	7000	1750	1700	n.a.
Secondary	1050	525	400	100
Medium	210	70	40	35, 5, 2.75

Figure 8.1 compares capital expenditure across the two regulatory periods.

Figure 8.1 ActewAGL actual and projected capital expenditure, 2000–01 to 2009–10



8.3.3 Redundant capital

ActewAGL has included a forecast of redundant capital of \$0.1 million per annum for each year of the forthcoming regulatory period as one of the cost building blocks. This forecast reflects the historic level of general asset write-offs, and may be considered as accelerated depreciation for certain assets.

ActewAGL's proposed access arrangement also includes a redundant capital policy, which is slightly different from the existing policy. In particular, the new policy removes the ability for the commission to reduce the capital base where assets are likely to cease contributing to the delivery of services, or where the sale of gas is 'likely' to cease. The commission is thus constrained to reducing the capital base only where events have actually occurred.

8.3.4 Depreciation

In determining the forecast capital base, ActewAGL has:

- indicated that all forecast expenditure undertaken meets the requirements of section 8.16 of the Code
- adopted the same depreciation rates as those adopted for the 2001 access arrangement period—these are based around the asset lives shown in Table 8.3 as determined by the commission in its 2000 final decision
- netted off capital contributions
- adopted the forecasts of inflation shown in Table 8.11 to determine the indexation amount for each year.

8.3.5 Inflation

Consistent with the approach approved by the commission for the 2001 access arrangement, ActewAGL's proposed reference tariffs for the forthcoming access arrangement period are based on cost of service methodology which has been applied on a real basis. As discussed above, using the real basis requires the capital base to be adjusted for inflation.

ActewAGL's forecasts of inflation over each year of the forthcoming access arrangement period are shown in Table 8.11.

Table 8.11 Inflation forecasts, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
CPI forecast %	2.5	2.5	2.8	3.0	3.0	3.0

8.4 Issues paper responses

In its response to the issues paper, ActewAGL has submitted that its proposed stay-in-business expenditure is warranted by current service standards, which are largely determined by statutory requirements, and consumer preferences as indicated by its willingness to pay study.

ActewAGL has submitted that stay-in-business capital expenditure accounts for a relatively small share of total forecast capital expenditure (reflecting that ActewAGL's network assets are relatively new), and that the proposed average annual stay-in-business expenditure represents less than 1 per cent of the value of the asset base (below the industry accepted long-term average of 2 per cent a year).¹⁰

ActewAGL has also submitted that significant capital expenditure is required to develop capacity beyond the original 20-year time horizon for which the system was designed in 1981, in order to maintain safe and reliable supply to customers. Further, it has submitted that capital requirements are based on demand forecasts which take account of the trend towards more energy-efficient utilisation.

8.5 Consideration of issues

The commission employed MMA and ECG to assess the prudence of ActewAGL's actual and proposed capital expenditure program over the period from 2001 to 2010. As part of this process, ECG assessed the prudence of actual capital expenditure over the 2001 access arrangement period as well as the forecast capital expenditure for the forthcoming access arrangement period.

¹⁰ ActewAGL, response to the 2004 issues paper, p. 20.

Prudent actual capital expenditure during the 2001 access arrangement period is an input to determining the value of the capital base at the commencement of the forthcoming access arrangement period. Prudent forecast capital expenditure is also used in rolling forward the capital base value over the forthcoming access arrangement period.

8.5.1 Initial capital base

As discussed above, the commission must determine what the opening capital base will be on the basis of a roll-forward methodology which makes adjustments for the actual capital expenditure over the access arrangement period (assuming that it is deemed to meet the tests under section 8.16 of the Code), less depreciation and redundant capital.

8.5.2 Capital expenditure (2001 access arrangement period)

ECG assessed the prudence and efficiency of the actual capital expenditure over the 2001 access arrangement period as part of its review. While noting that ActewAGL's actual capital expenditure was higher than forecast during the 2001 access arrangement period, ECG determined that all actual capital expenditure during the 2001 access arrangement period was prudent. In its report to the commission ECG stated:

As the overspend is primarily due to the market expansion, ECG recommends that the actual costs be accepted as prudent and that this expenditure is used to determine the opening capital base for the next access arrangement period.

Having taken into account the submissions of ActewAGL, the recommendations of the MMA report and other information available to the commission at this stage, the commission's preliminary view is that all capital expenditure that was incurred over the 2001 access arrangement period was prudent investment. The commission will therefore roll all actual expenditure into the opening capital base (the amount of the actual capital expenditure is shown in Table 8.6 above).

8.5.3 Redundant capital (2001 access arrangement period)

ActewAGL has reduced the capital asset base by \$1.9 million and \$0.1 million for disposals of assets in 2001 and 2003 respectively.

ActewAGL has reported that the \$1.9 million reflects the complete transfer of non-system assets included in the initial capital base calculation to Agility. Meanwhile, the \$0.1 million relates to the scrapping of assets affected by the January 2003 bushfires. The commission is satisfied with ActewAGL's explanation of the capital that was made redundant over the 2001 access arrangement period. The commission has excluded this capital from the roll-forward of the opening capital base.

8.5.4 Depreciation (2001 access arrangement period)

The commission has used a straight-line depreciation methodology for returning capital invested to ActewAGL. This methodology was applied in determining reference tariffs in the 2001 access arrangement period. Table 8.5 above shows the capital notionally returned to the business during the 2001 access arrangement period.

This depreciation allowance was based on the assumptions in the access arrangement regarding the initial capital base and the roll-forward of the capital base. In determining the appropriate depreciation schedule(s), the commission is to:

- apply the principles in section 8.33 of the Code, including that the depreciation schedule should be designed so as to result in the reference tariffs changing over time in a manner consistent with the efficient growth of the market for the services
- have regard to the reasonable cash flow needs for non-capital costs, financing cost requirements and similar needs of the service provider.

The capital base was rolled forward on the basis of the forecast capital expenditure in the access arrangement. As discussed above, ActewAGL actually exceeded these forecasts. This has resulted in a higher opening capital base for the forthcoming access arrangement period and, theoretically at least, a larger amount of depreciation. However, the commission notes that the actual amount of capital that has been returned through tariffs is the amount specified in the access arrangement.

There is an important distinction to be made between regulatory depreciation and depreciation used for tax purposes. Depreciation used by the commission in the establishment of the cost building blocks is normally calculated using a straight-line approach. This depreciation aims to ensure

that there is an appropriate cash flow for firms to continually invest in the network. Depreciation for taxation purposes is used by firms to ensure that tax liabilities are appropriately managed. The commission notes that the two types of depreciation are unlikely to be the same.

Given the differences between the two depreciation methodologies, the commission considers that it is appropriate to retire the amount of capital returned to the firm via tariffs as determined in the 2000 final decision. Therefore, the commission has rolled forward the opening capital base for the forthcoming access arrangement period by retiring the regulatory depreciation set out in Table 8.5 above.

8.5.5 Capital base for forthcoming access arrangement period

Opening capital base

The commission has determined the opening capital base for ActewAGL's natural gas distribution system for the forthcoming access arrangement period, based on the roll-forward procedure in section 8.9 of the Code, using a real basis for dealing with inflation in accordance with section 8.5A of the Code. This approach has determined the opening capital base from the following elements:

- the capital base value at the start of the 2001 access arrangement period
- actual capital expenditure incurred during the 2001 access arrangement period (which has been judged by the commission's consultants to meet the tests in section 8.16 of the Code)
- the regulatory depreciation determined during the 2001 access arrangement period
- redundant capital since 2001
- inflation from 2001 to 2004.

The commission's proposed opening capital base at the start of the forthcoming access arrangement period has been determined at a value of \$225.9 million at 30 June 2004 as shown in Table 8.5 above.

Forecast capital expenditure

The commission is required to assess the forecast capital expenditure that ActewAGL proposes should be taken into account in determining the capital base in accordance with the tests in section 8.16 of the Code. In assessing whether the capital base should be increased by the amount proposed by ActewAGL, the commission is required to consider the amount of capital that would be invested by a prudent service provider. In addition to the prudence test noted in 8.16, the Code also requires the commission to decide on whether or not the proposed capital program is efficient under the separate roll-in test.

While not directly defining efficiency, the Code does state that each project within the capital program must satisfy at least one of the following conditions:

- the anticipated incremental revenue generated by the new facility exceeds the new facilities investment
- the service provider and/or the users must satisfy the regulator that the new facility has system-wide benefits that, in the regulator's opinion, justify the approval of higher reference tariffs for all users
- the new facility is necessary to maintain the safety, integrity or contracted capacity of services.

Where ActewAGL is unable to provide satisfactory justification to support one of these conditions, the commission may seek to amend the amount by which the capital base may be increased to take into account a proposed capital program to ensure that the amount by which the capital base is increased does not exceed the amount that would be invested by a prudent service provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of delivering services.

ActewAGL has provided the commission with forecasts of capital costs in the following categories:

- market expansion, which accounts for 58 per cent of the capital program
- stay-in-business, which accounts for 24 per cent of the capital program

- demand growth, which accounts for 15 per cent of the capital program
- non-systems expenditure, which accounts for 3 per cent of the capital program.

The commission's consultant, MMA, conducted a comprehensive review of ActewAGL's capital and operating cost forecasts. As part of this review, MMA reviewed the unit costs for each item in the forecast capital program. MMA found that the unit costs used in ActewAGL's forecasts were inappropriate and would not have been incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of providing services.

Having considered the consultant's finding, the submissions of ActewAGL and other material before it, the commission's preliminary view is that ActewAGL should amend the forecast capital expenditure it proposes to include in increasing the capital base, by reducing the per unit cost of market expansion capital expenditure on medium pressure mains from \$663 per unit to \$567 per unit. Furthermore, the commission proposes to require ActewAGL to reduce the per unit costs of services and meters to \$659 and \$180 respectively. In addition, in this draft decision the commission considers that ActewAGL's water meter expenditure is based on inappropriate unit costs and requires ActewAGL to use the costs as defined in the final year of the capital program, i.e. \$282 per meter.

As part of its review, MMA found that there were a number of additional items included in ActewAGL's stay-in-business expenditure. Traditionally the main aspect of stay-in-business capital expenditure is the replacement of meter stock. It also includes provisions for cathodic protection, valve installations, facilities regulators, and third-party relocations. While questioning why ACT residential meters were non-repairable MMA found that 80 per cent of the additional expenditure—that is, the expenditure not spent on meters—included in the stay-in-business expenditure was prudent. The commission's preliminary view is that the remaining 20 per cent is imprudent, given the requirements of the Code.

The commission has considered the additional items included in the stay-in-business element of the capital program and has decided that this amount should be reduced by 20 per cent. This is based on the lack of data provided by ActewAGL to support this expenditure in terms of the criteria defined by the Code.

The commission does not consider that any other changes are warranted to ActewAGL's proposed capital expenditure forecasts to be included in the capital base. That is, the commission does not consider that any changes are required to be made to ActewAGL's forecasts relating to capacity development or non-system assets.

On the basis of the information available to it, and having regard to the new facilities investment provisions contained in section 8 of the Code, the commission requires ActewAGL to amend its proposed revisions to the access arrangement to ensure that the capital base for the forthcoming access arrangement period is increased by the capital expenditure allowed in Table 8.12.

Table 8.12 Commission's forecast capital expenditure, 2005–10

Year ending 30 June	\$ million, real 2004–05					
	2005	2006	2007	2008	2009	2010
Distribution system capex						
Growth market expansion	6.06	5.52	5.41	5.31	5.34	5.26
Growth capacity development	1.71	2.88	2.33	1.77	4.42	0.82
Stay in business	2.39	1.19	1.27	1.21	1.33	1.01
Total distribution system	10.17	9.59	9.01	8.29	11.09	7.1
Non-system capex						
Gas networks GIS system	0.50	0.00	0.00	0.00	0.00	0.00
Capitalisation of regulatory costs	1.60	0.00	0.00	0.00	0.00	0.00
Total non-system capex	2.1	0	0	0	0	0
Total capex	12.27	9.59	9.01	8.29	11.09	7.09

Table 8.13 provides a summary of the capital program by asset type and after allowance for capital contributions.

Table 8.13 Commission's forecast capital expenditure, by asset type, 2005–10

Year ending 30 June	\$ million, real 2004–05					
	2005	2006	2007	2008	2009	2010
Distribution system capex						
High-pressure mains	0	2.67	2.11	0.00	2.30	0.53
High-pressure services	0.01	0.00	0.00	0.00	0.00	0.00
Medium-pressure mains	2.89	2.59	2.67	2.66	2.96	2.75
Medium-pressure services	2.70	2.41	2.31	2.23	2.23	2.15
Regulators, valves	1.56	0.06	0.00	1.57	1.67	0.10
Contract meters	0.19	0.05	0.08	0.01	0.02	0.03
Tariff meters	2.91	1.81	1.83	1.83	1.91	1.54
Total distribution system	10.26	9.59	9.01	8.29	11.09	7.10
Non-system capex						
Gas networks GIS system	0.50	0.00	0.00	0.00	0.00	0.00
Capitalisation of regulatory costs	1.60	0.00	0.00	0.00	0.00	0.00
Total non-system capex	2.10	0.00	0.00	0.00	0.00	0.00
Total capital expenditure	12.27	9.59	9.01	8.29	11.09	7.10
Less: capital contributions	0.05	0.05	0.06	0.06	0.07	0.07
Total capital for roll-forward	12.22	9.53	8.95	8.23	11.03	7.03

Depreciation

ActewAGL's approach to calculating depreciation changes is a direct application of the methodology which applied during the 2001 access arrangement period, as approved by the commission in the 2000 final decision. The key elements of this methodology are the application of:

- a straight-line depreciation schedule
- asset lives as per the 2000 final decision
- inflation, applied to the calculated depreciation charge under section 8.33 of the Code (as also consistent with the real costing basis provided for under section 8.5A(b)).

The methodology is considered by the commission to be consistent with the requirements of the Code (including with section 8.33(d) that the sum of depreciation attributable an asset over its life shall be equivalent to the value of the asset when it first entered the capital base).

However, the commission's required variations to ActewAGL's forecast capital expenditure have a consequential effect on projected annual depreciation charges over the forthcoming access arrangement period. Accordingly, the commission has determined revised depreciation charges for the purposes of this draft decision. The revised depreciation charges are shown in the roll-forward summary table (Table 8.14 below).

Redundant capital

ActewAGL has submitted that the risk of asset redundancy should be allowed for in determining the regulated return, as the capital asset pricing model (CAPM) used to estimate the weighted average cost of capital (WACC) allows only for diversifiable risk. It submitted the proposed capital redundancy policy reduces potential uncertainty about whether and how redundant assets may be treated.

ActewAGL has suggested its proposal to remove the ability for the commission to reduce the capital base on the basis of events that are 'likely' to occur is consistent with section 8.27 of the Code.

ActewAGL has also submitted that it is appropriate for the service cost building blocks to include an amount for accelerated depreciation. It has submitted that its proposed allowance for accelerated depreciation typically represents assets that have ceased to operate effectively before their assumed economic life has expired (largely faulty meters requiring replacement).

ActewAGL has proposed that there will be some minor reductions in the capital base over the forthcoming access arrangement period. Forecasting redundant capital is problematic from a regulatory perspective, given that events which result in capital redundancy are difficult to predict.

The commission notes that ActewAGL's estimates for capital redundancy are less than the capital that was made redundant in the 2001 access arrangement period. However, noting the difficulty in forecasting, the commission considers that the information provided by ActewAGL is appropriate.

Inflation

ActewAGL's inflation forecasts are accepted by the commission to be consistent with the cost of service methodology applied by ActewAGL and with requirement of the Code that forecasts required in setting reference

tariffs are to represent best estimates arrived at on a reasonable basis (section 8.2(e) of the Code). ActewAGL's inflation forecasts are included in the roll-forward summary table (Table 8.14 below).

8.6 Draft decision

8.6.1 Opening capital base

The commission has determined the opening capital base in accordance with the roll-forward methodology as provided for under sections 8.9 and 8.5A of the Code. The value of the capital base at the start of the forthcoming access arrangement period is \$225.9 million at 30 June 2004.

8.6.2 Roll-forward over forthcoming access arrangement period

After considering the above issues, the commission's draft decision is to apply a 2.8 per cent reduction to ActewAGL's forward-looking capital expenditure program in determining the amount by which the capital base may be increased from the commencement of the forthcoming access arrangement period. Table 8.14 sets out the commission's roll-forward of the opening capital base over the forthcoming access arrangement period, taking into account the amount by which the forecast capital expenditure may be increased pursuant to section 8.16 of the Code.

The commission's adjustment to ActewAGL's forward-looking capital expenditure program has been based on the unit costs provided by its consultants, MMA. On the information available to the commission, the commission considers that the forward-looking capital program is now aligned with the tests set out in section 8.16 of the Code.

Table 8.14 Commission's roll-forward of the capital base, 2005–10

Year ending 30 June	\$ million, nominal					
	2005	2006	2007	2008	2009	2010
Opening balance	225.9	236.5	244.2	251.9	260.2	271.7
Plus capital expenditure	12.2	9.8	9.4	8.9	12.3	8.1
Less depreciation	7.3	8.1	8.6	8.3	8.7	9.0
Less disposals	0.05	0.05	0.05	0.05	0.06	0.06
Plus indexation	5.8	6.0	7.0	7.7	8.0	8.3
Roll-forward amount	236.5	244.2	251.9	260.2	271.7	279.0

9 Demand forecasts

ActewAGL's proposed access arrangement is based upon its gas demand forecasts for the tariff and contract markets. Demand forecasts are a key determinant of capital and operating expenditure, as they drive the level of new connections and the need to augment existing systems, as well as operational costs. More generally, they are also used to derive the prices needed to recover the required revenue over the regulatory period. Demand forecasts need to include estimates of consumption, peak demand and customer numbers, among other things.

Under the reference tariff policy as proposed by ActewAGL, the service provider is exposed to volume risk. That is, if actual demand over the forthcoming access arrangement period exceeds the forecast, revenue will increase above the estimated revenue requirement. On the other hand, if actual demand is lower than forecast, revenue will be less than the revenue requirement. In this light, a service provider has an incentive to understate forecasts for the forthcoming access arrangement period and make efforts to outperform the forecasts during that period.

9.1 Code requirements

Under section 8.2(e) of the Code, in determining whether to approve a reference tariff and reference tariff policy, the commission must be satisfied that any forecasts required in setting reference tariffs represent best estimates arrived at on a reasonable basis. The Code does not prescribe the manner in which demand forecasts must be constructed by the service provider or assessed by the regulator.

9.2 2000 final decision

9.2.1 Residential tariff market

The commission's 2000 draft decision required ActewAGL to revise upward its residential market forecasts. ActewAGL translated the commission's draft decision volume numbers into required customer numbers by applying forecast average consumption numbers to the draft decision requirement, an approach the commission considered reasonable.

ActewAGL applied a linear trend to forecasting new customers. For the 2000 final decision the commission considered the effect of moving away from ActewAGL's linear extrapolation of new customers, and ActewAGL's assessment of the factors underlying new connections and the factors limiting them, and concluded that the evidence and arguments put forward by ActewAGL supported a lowering of the commission's draft decision requirement (though the commission's analysis did not support the adoption of ActewAGL's proposed forecasts).

The commission decided to require 6 per cent annual load growth for the residential market (representing the midpoint between ActewAGL's proposal and the commission's draft decision), to be applied from 2000–01.

9.2.2 Business tariff market

In its 2000 final decision, the commission recognised the complexity involved in forecasting business tariff demand, primarily due to the volatility of business demand. While in its draft decision the commission's analysis suggested that 2 per cent annual growth in the tariff market was reasonable, new information presented by ActewAGL following the draft decision suggested that the target may have been too high.

On the basis of this information and its own analysis and consideration of growth drivers, the commission set business tariff market annual average load growth at 0 per cent per annum, to be applied from 2000–01.

9.2.3 Contract market

In its 2000 draft decision, the commission required ActewAGL to revise its contract market forecasts based on the actual 1998–99 figures and load

associated with the ACT urban bus fleet. After noting ActewAGL’s advice that Action Buses did not intend to power its bus fleet with natural gas within the 2001 access arrangement period, and the revisions to contract market forecasts submitted by ActewAGL, the commission accepted ActewAGL’s revised demand forecasts for the contract market.

9.3 ActewAGL proposal

ActewAGL has provided volume forecasts for the residential tariff and the business tariff markets and volume and MDQ forecasts for the contract market. It has used the year 2002–03 as the starting base to forecast consumption for 2003–04 (last year in the 2001 access arrangement period) and consumption over the forthcoming access arrangement period, 2004–05 to 2009–10.

In some areas, ActewAGL revised its initial proposals submitted to the commission in December 2003. ActewAGL’s latest proposed forecasts are referenced in the MMA report dated 28 June 2004 and are discussed further below.

In 2002–03 total network throughput was 6,676 TJ. This consisted of 4,297 TJ from the residential market, 1,389 TJ from the small business market and 990 TJ from the contract market. ActewAGL estimates there are 96,320 tariff customers and 38 contract customers as of 30 June 2004.

9.3.1 The residential tariff market

ActewAGL’s initial forecast consumption for the residential tariff market as received in the proposed revisions in December 2003 had growth at an average of 3 per cent per annum from 2004–05 to 2009–10. The initial forecast volumes are shown in Table 9.1.

Table 9.1 Residential market consumption, ActewAGL forecast, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Volume (TJ)	4,839	5,003	5,162	5,317	5,469	5,617

ActewAGL’s initial residential customer number forecasts are shown in Table 9.2 below.

Table 9.2 Residential customer numbers, ActewAGL forecast, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Initial	98,527	101,803	104,946	107,971	110,889	113,713

ActewAGL has indicated that residential tariff market growth is a function of:

- changes in consumption by existing residential customers
- consumption by new residential customers.

ActewAGL initially forecast that the average and total consumption by existing residential customers would grow steadily at 0.45 per cent per year, representing the average growth rate over the past four years. Consumption by new residential customers is a combination of customer number growth and changes in average consumption.

Customer number growth has been estimated by ActewAGL from independent sources, BIS Shrapnel and Queanbeyan City Council. According to ActewAGL the average housing demand growth forecast over the forthcoming access arrangement period in the ACT is 2,100 houses; the average has been 1,800 over the past few years. ActewAGL has estimated that 90.2 per cent of new houses and 82 per cent of other dwellings will be connected to gas. Growth in existing homes converting to gas is expected to continue to reduce in line with recent history.

ActewAGL calculates average consumption by new residential customers as a function of changes in residential customer numbers and the volume of gas consumed per new customer. New customers in the residential tariff market were split into three groups:

- new dwellings—houses
- new dwellings—medium/high density
- conversion of existing dwellings (electricity to gas).

ActewAGL has forecast the average annual consumption per customer in both new houses and new medium/high-density dwellings to reduce over the forthcoming access arrangement period from 53.1 GJ in 2002–03 to 47.6 GJ in 2009–10. ActewAGL argues that the reduction in gas demand growth is

driven by the introduction of more energy-efficient appliances, particularly hot water saving devices.

The average annual consumption per customer converting to gas was forecast to remain stable over the forthcoming access arrangement period, at 38.6 GJ.

9.3.2 The business tariff market

Consumption in the business tariff market was originally forecast by ActewAGL to grow at an average rate of 1.4 per cent per year between 2004–05 and 2009–10. For existing business tariff customers, the average consumption was forecast to fall by 0.06 per cent a year, which is, according to ActewAGL, the growth rate over the past four years. The net annual increase in business customers (new connections less disconnections) was forecast to remain constant at 46 customers, the average for the past five years. Average annual consumption by new business tariff customers was forecast to remain stable at 493 GJ. Table 9.3 shows ActewAGL’s original forecast business tariff market consumption for the forthcoming access arrangement period.

Table 9.3 Business market consumption, ActewAGL forecast, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Volume (TJ)	1473	1494	1515	1535	1556	1577

Business tariff customer numbers as initially forecast by ActewAGL are shown in Table 9.4 below.

Table 9.4 Business tariff customer numbers, ActewAGL forecast, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Initial	2,213	2,259	2,305	2,351	2,397	2,443

9.3.3 The contract market

ActewAGL’s submission proposes that the total annual consumption quantity (ACQ) in the contract market is expected to decline at an average rate of 1.7 per cent a year between 2004–05 and 2009–10.

Table 9.5 Contract market consumption, ActewAGL forecast, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
ACQ (TJ)	1,057	1,040	1,023	1,007	990	973
MDQ booked (GJ)	5,695	5,604	5,512	5,419	5,327	5,235

ActewAGL expects the number of contract sites to increase by 1–39 sites over the forthcoming access arrangement period. Average consumption per contract customer is forecast to decline, as further energy efficiency initiatives, already introduced at some sites, are implemented and plant is upgraded.

9.3.4 Weather adjustment

ActewAGL’s forecasts of demand in the tariff market take account of weather in two ways:

- ActewAGL has adjusted ‘weather-normalised’ consumption in the base year 2002–03 as temperatures were warmer than average in this year.
- ActewAGL has identified a trend for reducing heating degree days (HDDs—a measure of coldness of climate) by 3.8 HDDs per year since 1976, and has incorporated this trend into its forecasts. ActewAGL estimates that the adjustment reduces forecasts by 4 TJ per year over the forthcoming access arrangement period—although this is presumably additive each year.

9.4 Issues paper responses

In response to the issues paper, ActewAGL has submitted that historical trends provide a good basis for forecasting demand, suggesting that the key drivers of demand for the residential tariff market are:

- the number of new residences
- trends in average consumption by new customers
- the number of customers in existing residences converting from electricity to gas
- changes in consumption by existing customers

Drivers of demand for the business tariff market are more diverse than for the residential tariff market, and ActewAGL expects no significant changes in the factors driving demand over the forthcoming access arrangement period.

ActewAGL has submitted that drivers of demand in the contract market vary across individual customers, and ActewAGL considers the most reasonable forecasts are a continuation of historical trends in ACQs for each of the three groups in this market—health and education, offices, and others—with adjustments where major new customers are expected. Over the forthcoming access arrangement period one new customer is expected to enter the market.

ActewAGL adjusted its forecasts as presented in the original proposed access arrangement information. The adjustments are detailed below.

9.4.1 Residential tariff market

The average usage growth forecast for existing residential customers was altered by ActewAGL in its revised submission received by the commission’s consultants, from 0.45 per cent per year to 0.03 per cent per year.

ActewAGL had forecast the average annual consumption per customer in both new houses and new medium/high-density dwellings to reduce over the forthcoming access arrangement period from 53.1 GJ in 2002–03 to 51.7 GJ in 2004–05 and 47.6 GJ thereafter. These estimates were subsequently revised to 53.3 GJ in 2003–04, 51.7 GJ 2004–05 and 49.0 GJ thereafter.

The average annual consumption per customer converting to gas from electricity was initially forecast to remain stable over the forthcoming access arrangement period, at 38.6 GJ, but later reduced to 36.4 GJ in 2003–04 and 2004–05 with an annual reduction of 0.5 GJ per annum thereafter.

ActewAGL has submitted that the forecast fall in average consumption for new residential customers is reasonable, and is driven by the introduction of more energy efficient appliances (particularly hot water saving devices) and increased awareness of energy efficiency.

As weather has a major influence on residential and business gas demand, as discussed below in Section 9.4.2, ActewAGL has submitted that any significant trend to warmer (or cooler) temperatures should be taken into account in demand forecasts. Analysis by ActewAGL indicates there is a strong relationship between the number of HDDs recorded at Canberra Airport and consumption by tariff customers on the ActewAGL distribution network. Based on 2003 data, each HDD increases consumption by 1.3 TJ.

ActewAGL noted its analysis also confirmed a trend to warmer temperatures in the ACT. The analysis is based on 37 years of historical data and shows a statistically significant declining trend in HDDs over time. HDDs recorded at Canberra Airport are reducing by an average of 5.4 HDD per year. This trend is reflected in ActewAGL's forecasts.

The initial and revised customer number forecasts as supplied by ActewAGL in June 2004 are presented in Table 9.6. The revised figures are the result of updated BIS Shrapnel figures, based on a revised methodology which took into account some of the draft recommendations as proposed by the commission's consultants and ActewAGL's revised assumptions.

Table 9.6 Initial and revised residential tariff customer numbers ActewAGL forecast, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Initial	98,527	101,803	104,946	107,971	110,889	113,713
Revised	98,126	101,576	104,894	108,092	111,184	114,181
Difference	-401	-227	-52	121	295	468

The initial and revised volume demand forecasts as supplied by ActewAGL in June 2004 are presented in Table 9.7.

Table 9.7 Initial and revised ActewAGL residential volume (TJ) demand figures, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Initial	4,839	5,003	5,162	5,317	5,469	5,617
Revised	4,736	4,840	4,938	5,032	5,120	5,206
Difference	-103	-163	-224	-285	-349	-411

9.4.2 Business tariff market

In a revised submission to the commission’s consultant, ActewAGL has provided updated business market consumption forecasts. ActewAGL has submitted that the forecast fall in average consumption for business customers is a continuation of historical trends which reflect the introduction of energy efficiency measures, and that it is reasonable to assume this trend will continue.

Table 9.8 shows the difference between ActewAGL’s original and revised business market consumption forecasts.

Table 9.8 ActewAGL original and revised business volume (TJ) forecasts, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Initial	1,473	1,494	1,515	1,535	1,556	1,577
Revised	1,426	1,426	1,427	1,427	1,427	1,427
Difference	-47	-68	-88	-108	-129	-150

ActewAGL’s initial and revised business tariff customer number forecasts are shown in Table 9.9 below.

Table 9.9 Initial and revised business tariff customer numbers ActewAGL forecast, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Initial	2,213	2,259	2,305	2,351	2,397	2,443
Revised	2,202	2,248	2,294	2,340	2,386	2,432
Difference	-11	-11	-11	-11	-11	-11

9.4.3 Contract tariff market

Contract market consumption levels were not adjusted in ActewAGL's revisions.

9.5 Consideration of issues

The key drivers of gas demand in the ACT, Queanbeyan and Yarrowlunla that the commission has considered in assessing ActewAGL's demand forecasts are:

- economic factors relevant to ActewAGL's area, including gross state and regional product, changes to housing stock, household disposable income and employment
- changes to average use per customer related to trends in appliance penetration, efficiency and use—for example, use of space heater or gas central heating, gas cooking appliances and gas hot water (instantaneous or storage)
- fuel pricing—real price of gas, impacts of full retail contestability, pricing relative to other fuels (especially electricity) and price elasticity of demand
- major new industry or commercial developments
- new uses for gas—for example, cogeneration and natural gas for vehicles
- climate change and weather conditions that could affect winter demand
- numbers of single dwellings and multi-dwelling sites
- ACT Government or Australian Government energy policies, as well as town-planning requirements related to reduced greenhouse gas emissions.

The commission considers these factors to be the key factors to be taken in to account when assessing gas demand forecasts, on the basis of its experience in this industry and taking into account the requirements of the Code.

The commission also engaged MMA to review ActewAGL's forecasts in accordance with the requirements of the Code. In assessing whether the forecasts are best estimates arrived at on a reasonable basis, the commission instructed MMA to investigate whether:

- the forecasting methodology adopted is logical and the information/database is accurate and verifiable
- all relevant factors and key assumptions impacting on demand are accounted for
- the methodology is appropriate to the situation and the nature of the market
- methodologies adopted and assumptions applied are unbiased
- forecasts recognise and are reflective of key drivers of demand
- forecasts stand up to scrutiny against existing forecasts and proven methodologies.

After reviewing ActewAGL's initial and revised submissions, MMA prepared its own forecasts as the consultant believed the ActewAGL forecasts were not the best estimates arrived at on a reasonable basis. MMA's forecasts for both customer numbers and volumes are shown in Table 9.10 below, as well as the initial and revised ActewAGL forecasts.

Table 9.10 Comparison of MMA and ActewAGL initial and revised demand forecasts, 2004–10

	2004	2005	2006	2007	2008	2009	2010	% pa
MMA Forecasts								
Residential customers	94,617	98,551	101,988	105,291	108,475	111,553	114,535	3.2%
Residential sales, TJ	4,596	4,784	4,943	5,093	5,237	5,379	5,518	3.1%
Business customers	2,156	2,202	2,248	2,294	2,340	2,386	2,432	2.0%
Business sales, TJ	1,422	1,435	1,448	1,460	1,473	1,486	1,498	0.9%
Tariff sales, TJ	6,018	6,219	6,391	6,554	6,710	6,865	7,016	2.6%
Contract MDQ, GJ	5,479	5,696	5,613	5,531	5,447	5,365	5,282	-0.6%
ActewAGL Initial Forecasts								
Residential customers	94,942	98,527	101,803	104,946	107,971	110,889	113,713	3.1%
Residential sales, TJ	4,656	4,839	5,003	5,162	5,317	5,469	5,617	3.2%
Business customers	2,167	2,213	2,259	2,305	2,351	2,397	2,443	2.0%
Business sales, TJ	1,452	1,473	1,494	1,515	1,535	1,556	1,577	1.4%
Tariff sales, TJ	6,108	6,312	6,496	6,676	6,852	7,025	7,194	2.8%
Contract MDQ, GJ	5,487	5,695	5,604	5,512	5,419	5,327	5,235	-0.8%
ActewAGL June 2004 Forecasts								
Residential customers	94,164	98,126	101,576	104,894	108,092	111,184	114,181	3.3%
Residential sales, TJ	4,556	4,736	4,840	4,938	5,032	5,120	5,206	2.2%
Business customers	2,156	2,202	2,248	2,294	2,340	2,386	2,432	2.0%
Business sales, TJ	1,426	1,426	1,426	1,427	1,427	1,427	1,427	0.0%
Tariff sales, TJ	5,982	6,163	6,266	6,365	6,459	6,547	6,633	1.7%
Contract MDQ, GJ	5,487	5,695	5,604	5,512	5,419	5,327	5,235	-0.8%

The significant change from the initial ActewAGL forecasts to their revised estimates was largely due to expected impacts of the Think Water Act Water (TAW) strategy recently adopted by the ACT Government. MMA accepted that the TAW strategy will have a significant impact on the residential market. However, MMA considered the latest ActewAGL forecasts to be inconsistent with section 8.2(e) of the Code.

9.5.1 Residential tariff market

The material differences between the latest ActewAGL forecasting methodology, assumptions and forecasts and those considered to be best estimates by MMA lie in the areas of:

- the number of new home connections forecast for 2003–04
- the number of electricity to gas (E to G) connections forecast for 2003–04
- the annual increase in average usage by existing customers
- starting usage by new customers
- the analysis of the expected energy impact of AAA fittings promoted under TWAW on new and existing customers
- the expected penetration rate of the fittings for new customers
- the expected penetration rate of the fittings for existing customers
- the expected outcomes of the TWAW strategy for existing customers in the ACT
- the expected outcomes of the TWAW strategy for E to G customers in the ACT.

There is a difference between the number of new home connections and the number of E to G connections forecast by MMA and ActewAGL for the 2003–04 year, although the forecasts converge during later years. MMA forecast an additional 294 new homes and 158 E to G connections in 2003–04 compared with ActewAGL. Some of the difference may be due to differences in modelling Queanbeyan developments. The commission proposes to adopt an updated 2003–04 new customer figure for the final decision which will be based on the latest available data.

There were also differences between MMA and ActewAGL in their annual usage forecasts. MMA recommends an average usage growth rate for existing customers of 0.08 per cent, while ActewAGL's growth rate was 0.03 per cent. ActewAGL's methodology is the subject of significant variation depending on the initial year chosen. MMA adopted an approach

which reduced this variation. The commission considers this to be a more accurate methodology.

New customer usage forecasts differed between ActewAGL and MMA. The commission supports MMA's recommendation of using a weather-normalised average of recent years as opposed to calculating the starting point based on the previous year's usage.

The impact of the TAWW initiative also contributed to differences between MMA and ActewAGL forecasts. MMA is of the opinion that ActewAGL has over estimated the reductions in gas usage that will result from the introduction of the AAA fittings, one component of the TAWW initiative. For new dwellings, ActewAGL assumed a penetration rate for AAA fittings of 25 per cent for 2004–05 and 100 per cent thereafter. MMA believes this to be too high as the New South Wales component of new dwellings, about 14 per cent, will not be impacted until 2005–06, due to the introduction of the BASIX program from 1 July 2005. Within the ACT, AAA fittings in new houses will not be mandatory until 2007 and there is no reason to expect that the take-up rate for new homes in the ACT will approach 100 per cent before then.

9.5.2 Business tariff market

MMA considers that the latest ActewAGL forecasts for the small business market are not best estimates, as they do not factor in the growth seen over recent years after taking into account weather normalisation and transfers of customers between the tariff and contract markets. The consultants, after making allowances for HDDs and government policy initiatives, note that demand is still likely to grow by 1 per cent.

9.5.3 Contract tariff market

In its draft report MMA assessed that the ActewAGL methodology for forecasting the contract market would be accepted as reasonable if the top six current customers and the new customer were treated as 'majors' and forecast through discussions while the remaining 'non-majors' were treated through trend analysis.

ActewAGL has provided interim forecasts, based on adopting MMA's recommendations, but assuming that the majors will contract in line with current MDQ while the remaining non-majors are analysed using trend analysis. MMA considers this to be a reasonable forecast to use in modelling until discussions with the majors have been held and documented. This analysis results in MDQ figures as forecast above by MMA in Table 9.10.

9.6 Draft decision

9.6.1 Customer numbers

Both the MMA forecasts of customer numbers and the revised ActewAGL forecasts have similar growth rates (3.2 per cent compared with 3.3 per cent), the key difference being the 2004 starting figure. The commission proposes to accept the ActewAGL revised forecasts in this draft decision but use an updated 2004 residential customer number in the final decision, together with the agreed ActewAGL growth rate.

The commission accepts ActewAGL's business customer numbers as best estimates arrived at on a reasonable basis.

The commission will adopt the interim contract tariff forecasts, subject to ActewAGL completing discussions with the majors as proposed by MMA and reporting the results prior to the final decision being released.

9.6.2 Customer volumes

After considering the findings of MMA and the information provided by ActewAGL, the commission's preliminary view is that the latest ActewAGL forecasts are not best estimates arrived at on a reasonable basis and recommends ActewAGL adjust the forecasts accordingly. In particular, the commission has not accepted the average volume estimates for residential tariff customers provided by ActewAGL.

The commission will use the forecasts set out in Table 9.11 for the purposes of this draft decision.

Table 9.11 Commission forecasts, 2004–10

Year ending 30 June	2004	2005	2006	2007	2008	2009	2010
Number of customers							
Tariff customers	96,320	100,328	103,824	107,188	110,432	113,570	116,613
Contract customers	38	39	39	39	39	39	39
Total customers	96,358	100,367	10,3863	107,227	110,471	113,609	116,652
Volumes							
Tariff (TJ)	5,996	6,198	6,371	6,534	6,692	6,847	6,999
Contract (MDQ)	54,79	5,696	5,613	5,531	5,447	5,365	5,282

The commission has adjusted the total tariff volumes provided by MMA to reflect the customer number figures provided by ActewAGL, which have been adopted by the commission. The commission has used the per residential tariff customer volume numbers provided by MMA and multiplied those volumes by ActewAGL's customer numbers to determine an adjusted tariff volume.

10 Cost of capital

10.1 Code requirements

Sections 8.30 and 8.31 of the Code provide that the rate of return used in determining a reference tariff:

- should provide a return which is commensurate with prevailing conditions in the market for funds and the risk involved in delivering the reference service
- may be set on the basis of a weighted average of the return applicable to each source of funds, i.e. a weighted average cost of capital (WACC) approach, and determined based on a well-accepted financial model such as the capital asset pricing model (CAPM)
- may be calculated by reference to a financing structure that reflects standard industry structures for a going concern and best practice.

Furthermore, the commission must ensure that the methodology chosen to determine the cost of capital is consistent with the principles articulated in section 8.1 of the Code.

10.2 Calculating the WACC

In addition to the comments on the WACC in the proposed revisions submitted by ActewAGL in December 2003 and ActewAGL's response to the commission's issues paper, ActewAGL has provided the commission with a report prepared by Network Economics Consulting Group (NECG) for ActewAGL.¹¹ All of the submissions accept the commission's approach to calculating the WACC as adopted in the recent electricity and water and wastewater decisions. The commission will continue to apply a real pre-tax

¹¹ NECG, *Weighted average cost of capital for ActewAGL on its gas distribution assets*, February 2004. ActewAGL also provided follow-up advice in a letter dated 2 July 2004.

WACC to the regulated asset base to determine a return on capital included in the building-block revenue determination.¹²

In general, the WACC is the weighted average of the return on debt and the return on equity. The weights are determined by the relative levels of debt and equity funding. It is important to note that the WACC calculation is affected by taxation and imputation credits. The commission first calculates a nominal pre-tax WACC which is given by the following formula:

$$\text{Nominal WACC} = R_d \times \frac{D}{V} + \frac{R_e}{1 - t \times (1 - \gamma)} \times \frac{E}{V}$$

where:

- R_e is the nominal pre-tax cost of equity
- R_d is the nominal pre-tax cost of debt
- E is the total equity
- D is the total debt
- V is debt plus equity.
- t is the tax rate
- γ is the percentage of imputation credits.

The nominal WACC is then transformed into a real WACC by using the market transformation whereby the nominal WACC is adjusted for inflation.¹³

The following equation demonstrates this transformation:

¹² The ACCC uses a post-tax nominal WACC.

¹³ There is an alternative approach which involves using what is known as the Macquarie transformation. In this case a nominal post-tax WACC is calculated by multiplying the nominal pre-tax WACC by one minus the tax rate. Then the real post-tax WACC is calculated by adjusting the nominal post-tax WACC for the inflation rate. Finally, the post-tax WACC is transformed into a pre-tax WACC by dividing by one minus the tax rate to determine a real pre-tax WACC. This alternative approach appears equally as valid as the commission's current approach but generally results in a lower calculated WACC.

$$WACC = \frac{1 + \text{Nominal WACC}}{1 + CPI} - 1$$

where *CPI* is the forward implied 10-year annual inflation rate.

To complete the calculation of the WACC, the return on debt and return on equity calculations need to be explained. The return to debt (R_d) will be calculated by adding a debt margin including issuance costs to the risk-free market rate:

$$R_d = R_f + D_m$$

where D_m is the debt margin.

The return to equity (R_e) will be calculated by application of the CAPM. The CAPM formula is presented in the formula below:

$$R_e = R_f + \beta_e \times (R_m - R_f)$$

where:

- R_f is the risk-free rate
- β_e is a measure of the correlation between an asset's risk and that of the overall market (known as the equity beta)
- R_m is the market rate of return
- $R_m - R_f$ is the market risk premium.

The equity beta can itself be calculated in various ways. The commission will use the Monkhouse formula, which is presented in formula below:

$$\beta_e = \beta_a + (\beta_a - \beta_d) \times \left(1 - \left(\frac{R_d}{(1 + R_d)} \right) \times t \times (1 - \gamma) \right) \times \frac{D}{E}$$

where:

- β_a is the correlation between return to assets of the business and the market (known as the asset beta)

- β_d is the correlation between return to debt and debt generally in the market (known as the debt beta).

Given these formulas for the calculation of the WACC, the commission has to make decisions on the appropriateness of the following parameters proposed by ActewAGL:

- the tax rate
- the impact of dividend imputation credits
- the debt margin
- the market risk premium
- the asset beta, debt beta and equity beta
- the gearing ratio
- the risk-free rate
- the inflation rate.

The risk-free rate and the real risk-free rate are determined from the returns on Commonwealth securities which are published by the Reserve Bank of Australia (RBA).¹⁴ The inflation rate is calculated using the Fisher equation and is given below:

$$CPI = \frac{1 + R_f}{1 + RealR_f} - 1$$

where $RealR_f$ is the real risk-free rate.

¹⁴ The nominal risk free rate is determined from 10-year Treasury bonds and the real risk-free rate is determined from Treasury Indexed Capital Bonds. These rates are available on the RBA's website <www.rba.gov.au>. The commission uses the average return over the last 20 days for the risk-free rate and the weighted 20-day average of the August 2010 and August 2015 indexed bonds for the real risk-free rate.

10.3 2000 final decision

In the 2000 final decision the commission used a pre-tax real WACC to determine the cost of capital for ActewAGL's reference services.

Table 10.1 provides a summary of the parameters used to determine the weighted average cost of capital.

Table 10.1 2000 final decision on WACC parameters

Parameter	ActewAGL original proposal	ICRC 2000 final decision
Risk-free rate	6.66%	6.16%
CPI	3.0%	2.77%
Real risk-free rate	n.a.	3.30
Market risk premium	6.0–7.0%	5.0– 6.0%
Debt margin	1.2 –1.4%	0.90–1.1%
Gearing	60%	60%
Gamma	0.30–0.50	0.30–0.50
Asset beta	0.50–0.60	0.40–0.50
Debt beta	0.06	0.06
Tax rate	36%	30%
Equity beta (calculated)	1.1–1.4	0.90–1.1
WACC (pre-tax real)	6.4–10.3%	5.2–8.0%
Proposed real pre-tax WACC (%)	8.0%	7.75%

In the 2000 final decision the commission determined that the appropriate range for the WACC was 5.2 per cent to 8.0 per cent. The commission noted that a real pre-tax return on capital for gas utilities was in the range of 7.0 per cent to 8.0 per cent. Consistent with this range and the provisions of the previous access arrangement relating to the capital redundancy mechanism, stranding of investments, revenue risk associated with potential loss of supply, ActewAGL's financial projections, and other matters relating to the objectives of the Code, the commission determined that the real pre-tax rate of return should be 7.75 per cent.

10.4 ActewAGL proposal

ActewAGL has calculated a pre-tax real WACC using the CAPM approach for the 2005 access arrangement and has adopted a statutory tax rate. ActewAGL assessed the WACC range as lying between 7.62 per cent and 8.22 per cent, and from within this range selected 7.9 per cent as the appropriate return.

Table 10.2 compares the parameters proposed by ActewAGL with a small sample of those adopted in other recent regulatory decisions.

Table 10.2 WACC parameters, ActewAGL proposal and other regulatory decisions

Parameter	ActewAGL proposal ¹	ICRC Water and Electricity ²	IPART Electricity ³	ACCC Gas ⁴
Risk-free rate	5.65%	5.62%	5.9%	5.29%
CPI	2.33%	2.17%	2.5%	2.19%
Real risk-free rate	3.49%	3.38%	3.3%	3.03%
Market risk premium	6.5–7.0%	6.0%	5.0–6.0%	6.0%
Debt margin	1.43%	1.245%	1.025–1.225%	0.92%
Gearing	60%	60%	60%	60%
Gamma	0.40	0.50	0.50	0.50
Asset beta	—	0.40	0.35–0.45%	—
Debt beta	0.00–0.06	0.06	0.06–0.00	—
Tax rate	30%	30%	30%	23.5%
Equity beta (calculated)	0.98–1.09	0.90	0.78–1.11	1.00
WACC (post-tax nominal)	7.09–7.52%	6.51%	6.1–7.1%	6.50%
WACC (pre-tax nominal)	10.12–10.74%	9.31%	—	8.80%
WACC (pre-tax real)	7.62–8.22%	7.0%	6.1–7.5%	6.56%

1 ActewAGL, Response to the Independent Competition and Regulatory Commission's Issues Paper, April 2004.

2 ICRC, Final Report and Price Direction—Water and Wastewater Prices in the ACT, March 2004, and Final Decision—Investigation into prices for electricity distribution services in the ACT, March 2004.

3 IPART, NSW Electricity Distribution Pricing 2004/05 to 2008/09, Final Report, June 2004.

4 ACCC, Final Decision on Access Arrangement for the Moomba to Sydney Pipeline, October 2003

A brief discussion of each of the key parameters is provided below.

10.5 Issues paper responses

ActewAGL has maintained that the real pre-tax WACC of 7.9 per cent as determined using the parameters set out in Table 10.2 is sufficient and appropriate given the capital needs of the business over the forthcoming access arrangement period. ActewAGL has claimed that this estimate is based on an independent assessment by NECG.

ActewAGL has made a number of additional responses to the issues posed by the commission in its 2004 issues paper. These responses are set out below. The commission did not receive any other submissions from interested parties on the WACC.

10.5.1 The form of the WACC

ActewAGL has stated that the commission's proposed use of a real pre-tax WACC is appropriate as it is consistent with the commission's previous regulatory practice.

ActewAGL's proposed pre-tax real WACC is based on the market transformation method of converting a post-tax nominal WACC to a pre-tax real rate. In its response to the issues paper, ActewAGL noted that NECG had adopted the forward transformation method and that both the commission and IPART had used this method in previous gas decisions.

10.5.2 The tax rate used in the WACC

ActewAGL has submitted that the statutory tax rate of 30 cents in the dollar is appropriate given the relative cost, intrusiveness and complexity of calculating a more technically correct effective tax rate. ActewAGL has cited that it is likely the cost of calculating an effective tax rate would outweigh the benefits of moving towards the more technically correct approach to estimating the WACC.

10.5.3 Dividend imputation credits

ActewAGL has proposed to use a dividend imputation utilisation factor (or gamma) of 0.40 when calculating the WACC. ActewAGL claims that the marginal investor in the Australian context is more likely to be an international investor who does not have access to Australia's dividend

imputation credit system. Therefore, ActewAGL has recommended that a gamma of zero is consistent with the marginal investor being an international investor. However, ActewAGL has proposed to use a mid point of the range used by the commission in the previous decision on gas of 0.3 to 0.5 (i.e. 0.4). In its response to the issues paper, ActewAGL states that this proposal is supported by NECG, which saw ‘no credible case’ for the commission to shift above its ‘well-established position of a range of 0.3 to 0.5.’¹⁵

10.5.4 Debt Margin

ActewAGL’s proposed debt margin is 1.425 per cent, comprising a cost of debt component of 1.30 per cent and a component for debt-raising costs of 0.125 per cent.

In its response to the issues paper, ActewAGL states that recent regulatory decisions by IPART, the ACCC and the Essential Services Commission of South Australia (ESCOSA) in relation to the debt margin have used results from the CBA Spectrum model. In this regard ActewAGL commented that advice provided by National Economic Research Associates (NERA) (this advice was presented in ActewAGL’s supplementary submission to the commission’s recent electricity review) stated that if CBA Spectrum estimates of the debt margin were adopted, it would be appropriate to use the average CBA Spectrum debt margin over the 2001 access arrangement period for BBB+ bonds with 10 years to maturity, rather than short-term averages as used by IPART and the ACCC. NERA’s proposed approach has been adopted by the ESCOSA. ActewAGL noted that the only BBB+ observation in CBA Spectrum’s database to have a maturity greater than three years is Snowy Hydro, which has a nine-year maturity and a debt margin of 1.37 per cent, which is in line with ActewAGL’s proposed cost of debt component 1.30 per cent.

In the case of debt-raising costs, ActewAGL states that it has been advised by NECG that regulatory practice has been to understate debt-raising costs and that United States data suggest that these costs are in the order of 50 basis points. It also states that it is NECG’s opinion that debt-raising costs should increase to 0.25 per cent in line with the 23 December 2003 decision

¹⁵ NECG report, p. 35.

of the Australian Competition Tribunal in relation to the GasNet access arrangement. ActewAGL's proposed component for debt-raising costs, at 0.125 per cent, represents a discount on these benchmark values.

10.5.5 Market risk premium

ActewAGL has proposed a range for the market risk premium (MRP) of 6.5 per cent to 7.0 per cent. ActewAGL's consultant on the WACC, NECG, has suggested that the generally accepted range for the MRP among corporate finance professionals in Australia has been 6 per cent to 8 per cent. ActewAGL has claimed that a MRP toward the midpoint of this range is more appropriate than the MRP traditionally favoured by Australian regulators of between 5 per cent and 6 per cent.

10.5.6 Equity, asset and debt betas

ActewAGL has proposed a range for the equity beta of 0.98 to 1.09, with a debt beta of 0.00 to 0.06 and an asset beta of 0.40 to 0.48. ActewAGL noted that the regulatory precedent for gas distribution businesses has been to adopt an equity beta of between 1.00 to 1.20, while for gas transmission businesses this range has been between 1.00 and 1.30.

In addition, NECG has used international comparisons using Bloomberg data on utilities listed in overseas markets to determine asset betas. This has in turn been used to derive equity betas by re-leveraging the asset beta by assuming a zero debt beta and an effective gearing ratio of 60 per cent. Under these assumptions, NECG has calculated that the international data suggest that the equity beta was 1.00.

10.5.7 Gearing ratio

Consistent with the 2000 final decision ActewAGL has proposed a gearing ratio of 60 per cent.

10.6 Consideration of issues

10.6.1 The form of the WACC

The pre-tax real rate of return and the nominal roll-forward of the capital base ensure that the commission does not double count the impact of inflation. Considering the commission's approach to the WACC in its recent regulatory decisions on electricity and water and the roll-forward methodology outlined in Section 8 of this draft decision, the pre-tax real WACC is the commission's preferred approach to calculating the cost of capital for ActewAGL.

The application of a real rate of return in combination with all relevant costs being expressed in a constant price basis is expressly provided for in section 8.5A(b) of the Code, and ensures that inflation is not double counted.

10.6.2 The tax rate

Traditionally the commission has adopted a statutory tax rate in the calculation of the WACC. In the past the commission considered that this provided the business with the appropriate incentive to minimise taxes. Furthermore, given the relative cost and the level of intrusion associated with the calculation of an effective tax rate the commission has been reluctant to alter its position from using the statutory tax rate.

The commission has not been provided with any comment from external parties, other than ActewAGL, on this issue. The commission preference is to maintain the use of a statutory tax rate.

10.6.3 Dividend imputation credits

The WACC is modified by the value of dividend imputation credits (γ) to reflect the value of dividend imputation credits to investors, which will impact on the return to equities. The choice of γ reflects a view as to whether the capital asset pricing model is based on a marginal domestic investor or a marginal international investor. In a freely operating international investment market, the return to equity will be equalised between countries. If the marginal investor is an international investor, they receive no benefits from the dividend imputation credit, and the γ is most appropriately set at zero. Conversely, if the marginal investor is a

domestic investor, the dividend imputation credit will have some value. As companies do not normally distribute all of their earnings in dividends in one year, franking credits will therefore not reach a value of 100 per cent.

ActewAGL has submitted that gamma should be set at the midpoint of the historical range of 0.3 to 0.5—therefore, gamma should be 0.4. ActewAGL and its consultant, NECG, appear to be arguing that it is more likely that the marginal investor will be an international investor than an Australian investor. The commission's approach in both the recent electricity and water reviews has been to set the imputation credits factor at 0.5, reflecting recent regulatory practice. In addition, the commission notes that the marginal investor is impossible to identify under the CAPM. Under CAPM and the efficient markets hypothesis, all investors would be notionally marginal investors in that they would efficiently adjust their portfolios as new information arrived in the market.

The argument made by NECG is that international investors are likely to be the marginal investors, and that these foreign investors set the price for Australian Securities.¹⁶ NECG goes on to state that Australian investors receive windfall gains from dividend imputation. These windfall gains arise as domestic investors receive the imputation credit while foreign investors do not, meaning the returns to domestic shareholders are greater than the returns to international shareholders of Australian equities.

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.

The commission is unconvinced by the arguments supporting the lowering of the imputation credit factor and as such believes that 0.5 is appropriate. The commission is however willing to entertain additional submissions on the appropriate level of the parameter gamma.

¹⁶ NECG report, p. 32.

10.6.4 Debt margin

The commission in its final electricity and water and wastewater decisions from March 2004 adopted a debt margin of 1.245 per cent. This incorporated a 0.125 per cent margin for debt-raising costs.

Recent ACCC decisions on Murraylink and the Moomba–Sydney Pipeline used debt margins of 0.86 per cent (for an A credit rating) and 0.92 per cent (for a BBB+ credit rating).¹⁷ Using similar credit ratings, IPART’s draft determination in regard to electricity distribution assumed debt margins within the range of 0.9 per cent to 1.1 per cent excluding debt-raising costs.¹⁸

In its current submission, ActewAGL is proposing a cost of debt component of 1.30 per cent and debt-raising costs to remain at 0.125 per cent, to determine a debt margin of 1.425 per cent. The final electricity and water and wastewater decisions released by the commission in March 2004 adopted 1.245 per cent as the debt margin. The commission came to this decision based on both regulatory precedent—in that the ACCC and IPART had recently published decisions with debt margins in the range of 0.9 per cent to 1.1 per cent—and evidence to the effect that observed debt margins had trended down to well under 1 per cent for an A credit rated company.

The commission is not convinced that the debt market has changed materially since its 2004 electricity and water and wastewater decisions such as to justify a higher debt margin to that determined earlier in 2004.

The commission notes that the Australian Competition Tribunal decision in relation to the GasNet access arrangement included a debt-raising cost component of 0.25 per cent. However, the tribunal’s decision needs to be viewed in the context of its overall decision in relation to GasNet (including the effective rate of return applied in that decision, versus the rate of return

¹⁷ In a recent decision of the Australian Competition Tribunal, the Tribunal implicitly accepted the approach of basing the level of the debt margin on the credit rating of the business and using the calculated debt margin as provided by CBA Spectrum. The issue raised in the recent decision was what is the appropriate credit rating to use when basing this credit rating on comparator businesses. AGL was reported to have a credit rating of A in the Australian Competition Tribunal decision. (*Application by East Australian Pipeline Limited* [2004] ACompT 8.)

¹⁸ IPART, NSW Electricity Distribution Pricing 2004/05 to 2008/09, Final Report, June 2004.

embodied in this draft decision). For this draft decision, the commission proposes to retain the allowance for debt-raising costs, of 0.125 per cent, as used in its recent electricity and water decisions.

The commission considers a debt margin of 1.12 per cent, which is at the upper end of the range used by IPART and the ACCC, and a debt issuance cost of 0.125 per cent, determining a debt margin of 1.245 per cent, to be reasonable; and suggests ActewAGL provide additional information as to why a debt margin of 1.425 per cent should be adopted.

10.6.5 Market risk premium

The MRP is an estimate of the additional return needed by investors to invest in a diversified equity portfolio relative to the risk-free rate.

The commission has traditionally adopted a MRP of 6 per cent. As shown in Table 10.3 this has been the approach taken in all other jurisdictions within Australia.

Table 10.3 MRP—Australian regulatory decisions

Regulatory body	Industry	MRP
ICRC (1999)	Water and wastewater, electricity distribution	5.0–6.0%
ICRC (2000)	Gas	5.0–6.0%
OTTER (2001)	Gas distribution	6.0%
ACCC (2002)	Gas transmission	6.0%
ESCV (2003)	Gas distribution	6.0%
OTTER (2003)	Electricity distribution	6.0%
IPART (2004)	Electricity (final report)	5.0–6.0%
ICRC (2004)	Electricity final decision	6.0%
ICRC (2004)	Water final decision	6.0%

There are numerous studies which have attempted to quantify the actual or observed MRP in the market. These studies have resulted in a significant range of estimates which are dependent on the averaging period and the inclusion of specific events such as stock market corrections. Table 10.4 summarises some of these studies.

Table 10.4 MRP—Estimates from studies

Study	Period	Risk premium
AGSM—Arithmetic average ¹	1964–1998	4.8%
AMP Henderson Global Investors ²	1950–2002	5.4%
AMP Henderson Global Investors	1901–2002	6.0%
AMP Henderson Global Investors	1950–1999	6.2%
AGSM—Arithmetic average, incl Oct 1987	1964–1998	6.2%
AGSM—Arithmetic average, incl Oct 1887	1964–2000	6.2%
Officer (1992) ³	1946–1991	6.0% to 6.5%
Hathaway (1996) ⁴	1947–1991	6.6%
Hathaway (1996)	1882–1991	7.7%
Officer (2002)	1882–2001	7.2%
AGSM—Arithmetic average, excl Oct 1987	1964–2000	7.7%
London Business School (Australia) ⁵	1900–2001	7.9%
Dimson, Marsh, Staunton (2002) ⁵	1900–2002	7.9%
AGSM—Arithmetic average, excl Oct 1987	1964–1995	8.1%
Range	1882–2002	3.4% to 8.1%

1 All AGSM studies in this table are sourced from: IPART, *Regulation of NSW Electricity Distribution Networks*, section 5.4.2, Table 5.4, December 1999.

2 All AMP Henderson references sourced to AMP Henderson Global Investors.

3 All Officer references sourced to Officer, R. 'Rates of return to shares, bond yields and inflation rates: An historical perspective', in R Ball and P Brown (eds), *Share Markets and Portfolio Theory: Readings and Australian Evidence*, 2nd ed, University of Queensland Press, 1992.

4 Hathaway, N, unpublished manuscript.

5 Dimson, E, Marsh, P and Staunton, M, *Triumph of the Optimist: 101 years of Global Investment Returns*, Princeton University Press, 2002.

There are a number of studies within the range 5 per cent to 7 per cent which the commission considers an appropriate range of the MRP. While acknowledging the arguments presented by ActewAGL, the commission has decided for the purposes of this draft decision that using a market risk premium of 6 per cent is appropriate to balance the risks of investing in equities relative to the risk-free rate. A market risk premium of 6 per cent is consistent with Australian regulatory decisions for gas distribution pipeline assets.

10.6.6 Equity, asset and debt betas

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.

The current approach adopted by most regulators in Australia is to select values for the debt and asset betas and insert those values into the Monkhouse formula to calculate the equity beta. This is explained above; the Monkhouse formula is also given above.

An alternative approach would be to estimate the business's equity beta. The equity beta for an individual firm can be estimated using the CAPM equation if the firm's stock is publicly traded. This would derive an empirical estimate of the equity beta that could be used in the regulatory process. If the regulated firm is not publicly traded (i.e., a government-owned corporation) evidence from similar businesses that are publicly traded could be used to determine a reasonable value for the equity beta of a non-traded company. The commission believes there is merit in exploring estimating equity betas in the future.

ActewAGL has proposed the use of an equity beta of 0.98 to 1.09, based on a debt beta of 0.00 to 0.06 and an asset beta of 0.40 to 0.48. In support of these numbers ActewAGL cites regulatory precedence and international evidence. The commission is not convinced by either argument and believes that the appropriate value of the equity beta is 0.9, based on a debt beta of 0.06 and an asset beta of 0.40.¹⁹

The commission considered the issue of regulatory precedent raised by ActewAGL in support of its proposed WACC. ActewAGL argues that the commission's determination of an equity beta of 0.9 for the gas business does not accord with recent decisions made by the commission or other jurisdictional regulators in Australia.

The commission's most recent determinations on equity betas were made in March 2004 for electricity and water. For both of these decisions the commission determined equity beta to be 0.9. The 2000 gas decision set the

¹⁹ The commission's value for the debt beta, 0.06, is within regulatory precedent. In the December 2000 draft 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).

equity beta in a range of 0.9 to 1.1, and the 1999 electricity and water decision set the equity beta in the range of 0.74 to 0.79. The commission believes that retaining an equity beta of 0.9 is consistent with these decisions. The commission did set the equity beta higher in the 2000 gas decision than the 1999 electricity and water decision but the resulting WACCs were comparable, 7.5 per cent for electricity and water in 1999 and 7.75 per cent for gas in 2000. The commission also notes that the choice of an equity beta of 0.9 is consistent with IPART's June 2004 electricity decision of an equity beta in the range 0.78 to 1.11 (midpoint 0.94).²⁰

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.²¹ 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 0.48.²²

The commission has re-evaluated NECG's data to exclude non-Organisation for Economic Cooperation and Development (OECD) countries.²³ 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

²⁰ IPART, *NSW Electricity Distribution Pricing 2004/05 to 2008/09, Final Report*, June 2004.

²¹ NECG report, pp. 27 and 28.

²² NECG report, p. 30

²³ Data in the NECG report include observations from Brazil, Chile, and Morocco among others. The commission's view is that they are poor comparators to the Australian economy. The average estimated asset beta of the 19 non-OECD countries is 0.57.

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.²⁴

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.

10.6.7 Gearing ratio

The commission has adopted ActewAGL's preferred gearing ratio of 60 per cent debt and 40 per cent equity.

10.6.8 The nominal and real risk-free rates and implied inflation

The commission has used the nominal 10-year risk-free rate as published by the RBA to determine the nominal risk-free rate. For the purposes of this draft decision the commission has averaged the nominal risk-free rate over the 20-day trading period ending 30 June 2004. Under these market conditions the commission has observed the nominal risk-free rate to be 5.897 per cent.

²⁴ Allen Consulting Group, *Empirical Evidence on Proxy Beta Values for Regulated Gas Transmission Activities*, July 2002.

The commission has used the treasury indexed capital bonds for August 2010 and August 2015 using the same averaging period and straight-line interpolation to determine the 10-year real risk-free rate. Over this period and using the straight-line interpolation the commission has found the real risk-free rate to be 3.201 per cent.

The commission has then used the Fisher equation to determine the implied inflation rate over the period. Under these assumptions the implied inflation rate is 2.612 per cent.

The commission will consult with ActewAGL as to a final date to calculate the risk-free and real risk-free rates. The commission's preference is a date as close as possible to the release of the final decision.

10.7 Draft decision

The commission has used the parameters set out in Table 10.5 to calculate the appropriate rate of return for ActewAGL to earn on its investment in ACT gas distribution assets. The parameters were chosen after consideration of the submissions received from ActewAGL and a review of recent regulatory decisions within Australia and taking into account the requirements of sections 8.30 and 8.31 of the Code.

Based upon these parameters, the pre-tax real WACC calculated by the commission is 6.8 per cent. This is the commission's draft position on the WACC. A number of the key parameters will change between this draft decision and the final decision. The commission will use an updated WACC to reflect current market conditions, including inflation and the risk-free rate, at the date determined in consultation with ActewAGL.

Table 10.5 lists the commission's preferred values for this review. Also in the table are ActewAGL's proposed WACC parameters updated for the most recent information on the risk-free rate.

Table 10.5 Parameters used by the commission in calculating WACC

Parameter	ActewAGL's Proposal (updated)	Commission's Value
Risk-free rate	5.9%	5.9%
CPI	2.6%	2.6%
Real risk-free rate	3.2%	3.2%
Market risk premium	6.5–7.0%	6.0%
Debt margin	1.43%	1.245%
Gearing	60%	60%
Gamma	0.40	0.50
Asset beta	–	0.40
Debt beta	0.00–0.06	0.06
Tax rate	30%	30%
Equity beta (calculated)	0.98–1.09	0.90
WACC (nominal post-tax)	7.18–7.62%	6.73%
WACC (pre-tax nominal)	10.26–10.89%	9.62%
WACC (pre-tax real)	7.46–8.07%	6.82%

11 Reference tariffs and reference tariff policy

11.1 Code requirements

Section 3.3 of the Code requires an access arrangement to include a reference tariff for at least one service that is likely to be sought by a significant part of the market. Once those services are defined, the commission is required to determine whether the reference tariffs for those services comply with the reference tariff principles described in section 8 of the Code (section 3.4).

Section 3.5 of the Code requires an access arrangement to include a reference tariff policy which describes the principles to be used to determine a reference tariff. The reference tariff policy must also comply with the reference tariff principles described in section 8 of the Code.

Section 8 of the Code establishes the principles for setting reference tariffs and the reference tariff policy. These principles provide for considerable flexibility, and the role of the commission is to assess whether the proposed pricing methodology is consistent with those principles.

In broad terms, the principles in section 8 of the Code require the tariffs to generate sufficient revenue to enable the service provider to make a commercial return on its investment in pipeline assets over the life of those assets, and to provide it with an incentive to expand the system in a timely manner to meet market needs. At the same time, the return is to be set to mimic outcomes in a competitive market. Therefore access arrangements may include revenue incentives to improve efficiency, the benefits of which are to be shared by the service provider with users and prospective users.

Section 8.1 of the Code states that a reference tariff and a reference tariff policy should be designed with a view to achieving a number of specific objectives. These objectives are shown in Section 5 above of this draft decision.

Importantly, section 8.1 provides the commission with discretion to determine, where individual objectives are in conflict in relation to a

particular determination, the manner in which the conflicting objectives can best be reconciled, or which of them should prevail.

Also as discussed in Section 5 above, section 8.3 of the Code provides that the manner in which a reference tariff may vary within an access arrangement period (reference tariff policy) is within the discretion of the service provider, subject to the commission being satisfied that the manner of variation is consistent with the objectives in section 8.1. Examples of reference tariff policies provided in section 8.3 of the Code are:

- (a) a Cost of Service Approach;
- (b) a Price Path Approach;
- (c) a Reference Tariff Control Formula Approach;
- (d) a Trigger Event Adjustment Approach; or
- (e) any variation or combination of the above.

Consistent with the issue of potential conflicts between the objectives in section 8.1 of the Code, there also exists scope for different methodologies and values to be reasonably determined under other provisions in section 8, such as in section 8.3. In this regard it is noted that section 8.49 of the Code provides the commission with discretion to determine its own policies for assessing whether a reference tariff meets the requirements of section 8.

Under the Code, the reference tariff policy may provide that certain principles (termed fixed principles) are fixed for a specified period and not subject to change, when a service provider submits reviews to an access arrangement, without the agreement of the service provider (section 8.47).

A fixed principle may include any ‘structural element’ but cannot be a ‘market variable element’.²⁵ In assessing whether any structural element may be a fixed principle, and determining a fixed period, regard must be had to

²⁵ A structural element is any principle or methodology that is used in the calculation of a reference tariff where that principle or methodology is not a market variable element and has been structured for reference tariff making purposes over a longer period than a single access arrangement period. A market variable element is a factor that has a value assumed in the calculation of a reference tariff, where the value of that factor will vary with changing market conditions.

the interests of the service provider and the interests of users and prospective users (section 8.48).

11.2 2000 final decision

In its 2000 final decision, the commission required ActewAGL to amend the reference tariff policy in its access arrangement by:

- ensuring that it is consistent with the commission’s final decision
- removing any statements regarding the treatment of new facilities investment (including any such statements in section 4 of the access arrangement) except as required or permitted by the commission’s final decision
- adding the following statement:

ActewAGL may undertake New Facilities Investment that does not satisfy the requirements of section 8.16 of the Code. If ActewAGL incurs such New Facilities Investment, the Capital Base may be increased by that part of the New Facilities Investment which does satisfy section 8.16 of the Code (referred to in the Code as the “Recoverable Portion”).

The commission also required that ActewAGL amend the proposed revisions to ensure section 3 of the access arrangement headed ‘Impost and Other Statutory Charges’ included statements to the following effect:

ActewAGL may vary reference tariffs:

- (a) by the amount of any change in the authorisation fee paid by ActewAGL for a reticulator’s authorisation under the ACT Gas Supply Act, new Utilities Act and/or NSW Gas Supply Act applying to the ActewAGL distribution system, provided that the change is implemented at the time that ActewAGL annually varies its Reference Tariffs
- (b) by the amount of any change in the level of any government fees, taxes or charges provided that ActewAGL first:
 - (i) notifies the Relevant Regulator of the proposed change

- (ii) gives the Relevant Regulator a reasonable opportunity to appoint an independent auditor (at ActewAGL's expense) if the Relevant Regulator chooses, to ascertain and report on the impact on Reference Tariffs before the change is implemented; and
- (c) as soon as practicable by that amount of any authorisation fee in paragraph (a) that relates solely to the implementation of retail contestability in the gas industry in the ACT, Queanbeyan or Yarrowlumla Shire.

Any proposed variation to a Reference Tariff that ActewAGL is permitted to make under the above criteria must be allocated on the same basis as ActewAGL allocated costs in developing the Reference Tariff, immediately prior to its proposed variation.

The commission allowed ActewAGL to amend the reference tariffs in its access arrangement by an increase of 9.62 per cent from 1 July 2000 to include the net impact of:

- (a) the GST
- (b) changes to any other Australian Government, state or territory taxes or charges, consequent upon the introduction of the GST.

Reference tariffs presented in the access arrangement were required to be expressed in terms incorporating the GST adjustments described in an addendum.

Also in the 2000 final decision the commission required ActewAGL to amend its UAG figure for the purposes of its access arrangement, from the 2.5 per cent proposed by ActewAGL to 0.7 per cent, for the 2001 access arrangement period.

11.3 ActewAGL proposal

11.3.1 Total revenue

As noted in Section 2, ActewAGL has determined a cost of service for the ACT natural gas pipeline system using building blocks based on the cost of service methodology. ActewAGL's proposed building blocks for the

forthcoming access arrangement period are shown in shown in Table 11.1 below.

Its building-block components include a return on working capital. The proposed inclusion of this component in ActewAGL’s cost of service calculation is discussed in Section 6 of this draft decision. The commission does not consider there to be sufficient justification for such a return on working capital to be included in the total cost of service (total revenue requirement) to be recovered over the forthcoming access arrangement period.

Table 11.1 ActewAGL, proposed total revenue, cost allocation, 2005–2010

Year ending 30 June	\$ million, real 2004–05					
	2005	2006	2007	2008	2009	2010
Return on capital base	18.2	18.5	18.6	18.7	18.8	19.0
Depreciation	7.4	7.9	8.2	7.7	7.9	7.8
Redundant capital (accelerated depreciation)	0.1	0.1	0.1	0.1	0.1	0.1
Return on working capital	0.5	0.6	0.6	0.7	0.8	0.8
Non-capital costs	13.5	13.6	13.8	13.8	13.8	13.8
Total cost of service	39.7	40.7	41.3	41.0	41.4	41.5
Revenue from tariff customers	36.5	37.7	38.9	40.1	41.2	42.4
Revenue from contract customers	1.4	1.4	1.4	1.4	1.4	1.4

ActewAGL has proposed ‘smoothed’ tariffs which will result in the forecast net present value of the total cost of service (total revenue requirement) being recovered over the forthcoming access arrangement period, although forecast revenue and costs in any individual year will not necessarily match.

In terms of the tariff market, ActewAGL proposes a pricing structure that is the same as in the 2001 access arrangement in that it comprises:

- a fixed charge
- a throughput charge, with a number of different tariff ‘blocks’
- a basic metering equipment charge.

The structure of tariffs for the contract market is proposed to essentially remain unchanged from the 2001 access arrangement, except that the structure of the tariff blocks is varied so that the step charges in throughput decline for each block as throughput increases. Previously the steps fell, then increased, then fell again. The result of this change is to increase tariffs for customers using around 5–25 GJ per quarter by a relatively greater proportion than for other customers. For the majority of residential customers 5–25 GJ per quarter is the usage range.

ActewAGL is proposing the following:

- specific changes in tariffs between 2003–04 and 2004–05—the tariffs and changes are shown in Table 11.2 below
- annual real increases in tariffs of 1 per cent to 1.5 per cent for the contract market, given that contract revenue is to remain constant over the forthcoming access arrangement period but ActewAGL has forecast volumes to fall
- no change in charges in real terms for basic metering equipment and metering charges for tariff customers
- annual increases in real terms of around 0.3 per cent for fixed charges and throughput charges for tariff customers
- ancillary charges (fees for processing a request for service, special meter reading and connection and disconnection) to remain constant in real terms
- overall, tariffs to rise in real terms by 0.4 per cent per annum over the forthcoming access arrangement period.

ActewAGL's proposed tariff changes (expressed in real 2003–04 terms) to take effect on 1 January 2005 are shown in Table 11.2 below.

Table 11.2 ActewAGL proposal for tariff changes, 2003–04 to 2004–05

Tariff	\$ real 2003–04		% Change
	2003–04	2004–05	
Contract charges			
Network unit charge (\$ per GJ per MDQ per annum)	210.237	211.547	0.6
Throughput charge (\$ per GJ)	4.608	3.100	-32.7
Capped rates (\$ per GJ)			
First 20 TJ	4.120	2.888	-29.9
Next 30 TJ	3.570	2.507	-29.8
All additional TJ	3.020	2.117	-29.9
On-site data and communication equipment (\$ per delivery station)	980.000	982.439	0.2
Meter reading charge (\$ per delivery station)	419.000	420.488	0.4
Tariff market charges			
Fixed charge (\$ per annum)	45.400	44.528	-1.9
Throughput charges (\$ per GJ)			
First 1.25 GJ per month or 3.75 GJ per qtr	5.940	5.826	-1.9
Next 1.5 GJ per month or 4.5 GJ per qtr	4.244	4.601	8.4
Next 5.75 GJ per month or 17.25 GJ per qtr	4.514	4.427	-1.9
Next 75 GJ per month or 225 GJ per qtr	4.691	4.311	-8.1
Next 333.5 GJ per month or 1000.5 GJ per qtr	3.856	3.782	-1.9
All additional GJ	2.701	2.649	-1.9
Meter provision charges			
Meters < 6m ³ per hour (\$ per annum)	21.55	18.862	-12.5
Meters > 6m ³ per hour (\$ per GJ)	0.167	0.146	-12.4
Meter reading charge (\$ per annum)			
Quarterly	3.730	3.500	-6.2
Monthly	35.600	33.406	-6.2
Ancillary service charges			
Request for service (rate per hour)	50	53.220	6.4
Special meter read	40	39.912	-0.2
Reconnection fee	n.a.	75.385	n.a.
Disconnection fee	100	102.000	2.0

The new tariffs proposed for 2004–05 will not take effect until 1 January 2005.

11.3.2 Form of price path

In addition to the initial price changes shown in Table 11.2 above, ActewAGL's proposed access arrangement sets out prices (expressed in real 2004–05 terms) for each year of the access arrangement period.

ActewAGL's approach of predetermining tariffs in real terms (with the annual real change in tariffs being known as the 'X factor') and then

adjusting the predetermined tariff by the change in the CPI is consistent with the approach adopted in the 2001 access arrangement.

The CPI used is the All Groups index for the weighted average of eight capital cities, in this case calculated as the sum of the quarterly index values for the 12-month period to December prior to the relevant year, divided by the sum of the quarterly index values for the 12 months to December immediately prior to the aforementioned period.

The proposed tariffs:

- at 1 January 2005 do not vary the (average) tariff level applying to the final year of the 2001 access arrangement period (that is, ActewAGL is not proposing to apply a 'P⁰' at the start of the forthcoming access arrangement period)
- embody an annual 0.4 per cent real increase applied at 1 July each year of the forthcoming access arrangement period
- assume that at 1 July each year the CPI adjustment is applied, based on the approach noted above, to determine the nominal prices to apply over the following 12 months.

ActewAGL's proposed reference tariffs can thus be characterised as embodying a CPI + 0.4 per cent price path.

11.3.3 Pass-through events

As discussed in Section 11.2 above, ActewAGL's 2001 access arrangement permits changes in the cost of its annual authorisation fee to be automatically passed through to customers at the same time as the annual tariff variation. Authorisation fees associated with the implementation of full retail contestability may be passed through at any time. Changes in government fees, taxes or charges may be passed through at any time provided the commission has been notified of the proposed change and been given a reasonable opportunity to review the proposed changes.

Clause 6.10 of ActewAGL's proposed access arrangement provides for five pass-through events:

- capital cost event—where capital expenditure on a project is greater than forecast, or where expenditure is incurred on a project not included in the capital expenditure forecast. Although not stated in the access arrangement documentation, ActewAGL has clarified that this provision is intended to work in parallel with the third pass-through event, namely a regulatory event, and has been designed to apply primarily where external events such as changes in standards require increased expenditure.
- change in tax event—a change in tax or introduction or removal of a tax
- regulatory event—an event which imposes a change in minimum standards and substantially alters the way in which ActewAGL must provide services, including a change in authorisation fee, or a change in ActewAGL's obligations under the Code
- insurance event—including where insurance becomes more costly, unavailable, or available only on less favourable terms
- unforeseen external event—any unforeseen external event beyond ActewAGL's control, including natural disasters, such as bushfires, and terrorism.

Under ActewAGL's proposal:

- reference tariffs may be varied only if there is a material impact on costs (although the term 'material' is not explicitly defined)
- changes in tariffs that do occur as a result of a pass-through event will occur at the same time as the annual tariff variation
- the commission may initiate a variation to tariffs as a result of a pass-through event, if ActewAGL does not do so
- the process for seeking approval of the pass-through is generally as provided in the Code (that is, on the basis that the commission determines that the proposed pass-through arrangements represent an approved reference tariff variation method). This issue is considered in Section 11.5.3 below.

11.3.4 Link between tariffs and service standards

In other jurisdictions and other regulated industries some regulators have required that a formal link be established between tariffs and service standards. These arrangements have included:

- the requirement to make payments to customers where levels of service to individual customers fall below acceptable levels (often known as guaranteed service level payments, or GSLs)

or

- a formal link between the annual change in tariffs and overall network service levels (known as an ‘S factor’).

ActewAGL has not proposed to apply any new GSLs or apply any S factors to the price path formula in its proposed access arrangement revisions.

11.3.5 Fixed principles

ActewAGL has included in its proposed access arrangement three sections which it has designated as ‘fixed principles’. Under the Code, fixed principles are not subject to review by the regulator at the time an access arrangement is revised, and hence they continue to apply (unless the service provider agrees) until the end of a designated fixed period. The three proposed fixed principles are:

- ActewAGL may increase the capital base for the network for any part of the new facilities investment that satisfies section 8.16 of the Code.
- ActewAGL may undertake new facilities investment that does not satisfy section 8.16 of the Code. Where ActewAGL does so, ActewAGL may increase the capital base for any part of that new facilities investment that does satisfy section 8.16(a) of the Code.
- The amount that does not satisfy the requirements of section 8.16 of the Code forms part of the Speculative Investment Fund (as contemplated by the Code). ActewAGL may increase the capital base if a part of the Speculative Investment Fund subsequently satisfies the requirements of section 8.16 of the Code.

Clause 4.10 appears in fundamentally the same form in the 2001 access arrangement (as section 4.2.2). However, it is not denoted as a fixed principle.

11.4 Issues paper responses

11.4.1 Total revenue

In its response to the issues paper, ActewAGL has submitted that the approach to establishing tariffs is essentially the same as approved and used for the 2001 access arrangement, and continues to satisfy the requirements of the Code.

ActewAGL has submitted that its proposed reference tariffs are calculated in accordance with the principles in section 8 of the Code, using a price path approach, and fixed for duration of the forthcoming access arrangement period. This approach provides incentives for ActewAGL to increase demand and reduce costs during the period.

ActewAGL has presented that, as required by section 8.38 of the Code, the tariff for each reference service is designed to cover those costs which can be directly attributable to providing the service plus a share of joint costs, where the share is determined in line with the objectives of section 8.1 of the Code.

ActewAGL has submitted the only change in the structure of reference tariffs from the 2001 access arrangement is the reordering of the block structure of the tariff throughput charge so that the throughput rate reduces between all blocks as consumption increases. It submitted this change is cost reflective and continues to meet the requirements of the Code.

11.4.2 Form of price path

In relation to sharing of efficiency gains and losses, ActewAGL recognises that there may be benefits from the introduction of an incentive carryover mechanism, and has indicated its willingness to work with the commission to develop such a mechanism for application in the forthcoming access arrangement period.

ActewAGL has suggested the mechanism adopted by the ESCV for electricity and gas distribution businesses would be an appropriate starting point for developing such a mechanism.

11.4.3 Pass-through events

ActewAGL believes that the access arrangement should continue to have a pass-through mechanism. It submitted that the proposed revisions to the pass-through provisions in the 2001 access arrangement are designed to provide an updated and more detailed list of the types of events to be covered and ensure that the procedures for processing pass-through claims are consistent with changes to the Code.

ActewAGL argues its proposed definitions of pass-through events reflect the complicated and changing business and regulatory environment ActewAGL faces, and that the definitions of the types of events which can trigger cost pass-through in the 2001 access arrangement do not cover all reasonable possibilities.

ActewAGL has sought to clarify the position relating to the capital cost pass-through provision in the proposed access arrangement. This provision is not intended to work only with the regulatory event pass-through provision. The intention is to allow ActewAGL to vary the reference tariffs during the forthcoming access arrangement period, where there is a material impact on the cost of providing reference services as a result of new facilities investment which exceeds the forecast (clauses 6.10 and 6.11 of the proposed access arrangement).

ActewAGL's proposed capital cost pass-through provision is not open-ended, in that it is expressly limited to capital cost investments satisfying the requirements of section 8.16 of the Code.

ActewAGL believes that the requirement that there be a 'material impact' on the cost of providing the reference services, together with the limitations imposed by section 8.16 of the Code, imposes reasonable limitations on ActewAGL's ability to seek a capital cost pass-through under clause 6.10 of the proposed access arrangement.

Clause 6.10 of the proposed access arrangement permits reference tariffs to be varied only if there are 'material' changes in costs. ActewAGL has submitted that it is not in its commercial interests to pursue immaterial or

insignificant cost claims. During the 2001 access arrangement period, only one pass-through application was made, being for contestability costs. Other unexpected and externally imposed costs were not judged by ActewAGL to be material and therefore no claims were made.

ActewAGL does not believe that it is reasonable to establish a minimum ‘materiality’ threshold. The appropriate threshold will vary, depending on the type of event, the costs associated with the event and the costs of preparing and processing the claim.

ActewAGL states that its proposed mechanism for dealing with pass-through events is reasonable in that it meets the requirements of sections 8.3A to 8.3H of the Code, which have been added since the 2001 access arrangement was approved.

11.4.4 Link between tariffs and service standards

ActewAGL does not believe that it is appropriate to include a formal link between service standards and tariffs in the access arrangement, though it considers options and issues for the development of a service standard incentive scheme should be examined.

The development of such a scheme would require resolution of a number of difficult issues, which ActewAGL has suggested would be best resolved over the term of the next access arrangement. ActewAGL has signalled it would be prepared to work with the commission to develop an appropriate S-factor regime, or some other appropriate mechanism. It suggests the results from its willingness to pay study will provide useful input into the development of a service incentive scheme via a service quality index.

11.4.5 Fixed principles

ActewAGL suggests that the provision for fixed principles in the Code aims to provide some certainty for service providers about how reference tariffs will be determined. ActewAGL believes that reducing uncertainty where possible, through fixed principles, is particularly important for the forthcoming access arrangement period, given the likelihood that changes will be made to the Code during the period.

11.5 Consideration of issues

Key issues that often arise in the context of the reference tariffs and reference tariff policy, which are not otherwise addressed in the commission's consideration of the methodology and cost components of tariff calculation as discussed in preceding sections of this draft decision, include:

- the manner in which tariffs can vary systematically over the access arrangement period, which in the case of ActewAGL's proposal may be equally characterised as a price path approach, or reference tariff control formula approach, in terms of the reference tariff policy examples shown in section 8.3 of the Code
- whether the access arrangement should include 'pass-through events' to reflect exogenous factors. A pass-through arrangement can be characterised as a trigger event adjustment approach in terms of section 8.3 of the Code.
- whether there should be any explicit links between tariffs and service standards
- whether the reference tariff policy should provide that certain parts of the access arrangement (fixed principles) will not be subject to review at the conclusion of the forthcoming access arrangement period.

In effect, ActewAGL's proposed reference tariff policy is a variation or combination of the approaches referred to in section 8.3 of the Code. ActewAGL is seeking that these approaches apply in the forthcoming access arrangement period as an approved reference tariff variation method.

11.5.1 Total revenue

The commission's consideration of ActewAGL's proposed total revenue is contained in its separate assessment of the principles and individual components of the cost of service methodology applied by ActewAGL to determine its proposed reference tariffs and reference tariff policy.

The commission's consideration of these matters is contained in the earlier sections of this draft decision, and includes consideration of:

- the cost of service methodology and its application on a real basis under sections 8.4 to 8.5A of the Code (Section 6 of this draft decision)
- prudent and efficient non-capital costs in terms of section 8.37 of the Code (Section 7 of this draft decision)
- capital expenditure considered to be consistent with the prudency and roll-in tests under section 8.16 of the Code, and calculation of depreciation charges consistent with sections 8.32 to 8.35 of the Code (Section 8 of this draft decision)
- a rate of return applied to the relevant capital assets of the pipeline that is considered to be commensurate with prevailing conditions in the market for funds and the risk involved in delivering reference services in accordance with sections 8.30 and 8.31 of the Code (Section 10 of this draft decision).

The commission's separate consideration and determination of the above components within the cost of service framework, and the building block nature of that framework, has provided the commission's determination of the efficient cost (or anticipated efficient cost) of providing services over the forthcoming access arrangement period. Table 11.3 below shows the efficient cost (total revenue requirement) for ActewAGL's natural gas distribution system determined by the commission for the purposes of this draft decision.

Table 11.3 Commission, proposed total revenue, cost allocation, 2005–2010

Year ending 30 June	\$ million, real 2004–05					
	2005	2006	2007	2008	2009	2010
Return on capital base	15.78	16.00	16.06	16.10	16.23	16.32
Depreciation	7.40	7.94	8.20	7.72	7.85	7.84
Redundant capital (accelerated depreciation)	Nil	nil	nil	nil	nil	nil
Return on working capital	nil	nil	nil	nil	nil	nil
Non-capital costs	12.19	12.36	12.61	12.84	13.07	13.28
Total cost of service	35.36	36.30	36.87	36.66	37.16	37.44
Revenue from tariff customers	34.96	35.15	35.26	35.32	35.34	35.34
Revenue from contract customers	1.45	1.45	1.45	1.45	1.45	1.45

The total revenue requirement determined by the commission under the cost of service methodology in accordance with the principles and procedures discussed above in this draft decision represents an approximate 10.5 per cent reduction of the total revenue requirement proposed by ActewAGL over the forthcoming access arrangement period.

The potential effects of this reduction in the total revenue requirement are discussed below in relation to the proposed price path for the pipeline.

11.5.2 Form of price path

ActewAGL's approach of predetermining tariffs in real terms and then adjusting the predetermined tariff by the change in the CPI provides relative certainty for users (subject to changes in the CPI and the impact of pass-through events) and simplicity of calculation.

However, it varies from approaches typically adopted elsewhere in the gas industry where service providers often elect to establish an overall X factor and then to determine the annual changes in individual tariffs on a year-to-year basis, subject to complying with the overall X factor and any rebalancing constraints on individual tariffs. This is known as a 'tariff basket approach' and provides the ability for individual tariffs to change in relative terms throughout an access arrangement period in response to changes in the cost of providing services, as well as in demand.

Under ActewAGL's approach a realignment of tariffs to reflect unanticipated shifts in costs and demand can only occur at the end of an access arrangement period.

Because prices are predetermined in real terms, the need for rebalancing constraints does not arise.

ActewAGL's general approach provides an incentive for ActewAGL both to reduce costs, and to develop the market for services, within a regulatory period. However, ActewAGL has not proposed any across-period arrangements for the sharing of efficiency gains and losses. The effect is that ActewAGL will have a relatively greater incentive to reduce costs in the early years of the forthcoming access arrangement period (where it will be able to retain any gains for a relatively longer time) compared with the later years. This is because savings in the first year of the period are retained by the business for the full duration of the access arrangement period, while

savings made in the last year are retained for less than one year. This results in a relatively strong incentive for the business to outperform in the early years of the access arrangement period while providing little incentive at the conclusion of the period—that is, efficiency savings are translated into price reductions at the next regulatory reset.

Access arrangements approved in other jurisdictions, including those approved by the ACCC and the ESCV, include a mechanism that attempts to remove this bias and give the gas businesses an equal and continuous incentive to reduce costs and develop the market. The ESCV's mechanism allows the business to keep the benefits of any over-performance for a five-year period, regardless of the stage of the access arrangement period in which the saving was made. Such a scheme would give incentive to the business to make efficiency savings in excess of the targets set by the commission.

However, such across-period mechanisms give rise to a number of practical issues before they can be implemented. Other regulators (including IPART) have cast doubt regarding whether the benefits of such arrangements outweigh the costs.

The CPI-related price path mechanism proposed by ActewAGL is consistent with that currently applying to the 2001 access arrangement period. This mechanism could be characterised in terms of section 8.3 of the Code as being a price path approach, or a reference tariff control formula approach. The incentive benefits from such an approach, which are discussed above, are considered by the commission to be consistent with the objectives contained in section 8.1 of the Code.

In addition, the use of a lagged CPI value (to provide certainty in the tariff changes to take effect some four months after the publication of the last input data for the CPI calculation) is considered reasonable.

For the reasons noted above, the commission accepts the CPI-related price path mechanism proposed by ActewAGL. However, because the commission has determined a lower total revenue requirement for the forthcoming access arrangement period than has been proposed by ActewAGL (and has been used by ActewAGL to determine the parameter values in its proposed CPI-related price path mechanism), the underlying real tariff path to which the mechanism is to apply should be varied from that proposed by ActewAGL.

As noted above, ActewAGL proposed to apply:

- a 0 'P⁰' at the start of the forthcoming access arrangement period
- an annual 0.4 per cent real increase at 1 July each year of that period.

Based on the commission's determination of a 10.5 per cent reduction in the total revenue requirement for the ACT gas distribution system over the forthcoming access arrangement period, compared to that proposed by ActewAGL, the commission requires ActewAGL to amend its CPI-related price path mechanism so that:

- if a 0 'P⁰' is to apply at the start of the forthcoming access arrangement period (1 January 2005), then an annual 2.2 per cent real reduction should apply at 1 July each year of that period

or

- if the X factor is fixed at 0 per cent (i.e. tariffs vary only by CPI each year), then an 8.5 per cent 'P⁰' shall apply at the start of the forthcoming access arrangement period (1 January 2005).

Alternatively, ActewAGL may propose to set reference tariffs based on a different combination of X factor and 'P⁰' adjustments, provided that the effect of the revised parameter values within the price path mechanism is designed to recover no more than ActewAGL's total revenue requirement as determined by the commission above.

Importantly, where ActewAGL proposes to meet the commission's requirements in relation to the revised total revenue requirement and the revised parameter values within the price path mechanism through applying a 'P⁰' adjustment, it must also amend its proposed tariff changes to take effect on 1 January 2005 (as shown in Table 11.2 above) so that the weighted average tariff variation is consistent with ActewAGL's 'P⁰' adjustment.

11.5.3 Pass-through events

A pass-through event occurs when the effect of changes in specific ‘uncontrollable’ cost items are passed directly through to customers through changes in tariffs, thereby shielding the business from the impact of those cost changes. Pass-through events are addressed in sections 2.49 and 8.3 of the Code.²⁶

Pass-through events are proposed to apply by ActewAGL as a form of trigger event adjustment approach in terms of section 8.3 of the Code. ActewAGL is seeking that these approaches apply in the forthcoming access arrangement period as an approved reference tariff variation method. In determining to accept such an arrangement, the commission must be satisfied that the arrangement is consistent with the objectives in section 8.1 of the Code and that the implementation of the approved reference tariff variation method will meet the requirements of sections 8.3B to 8.3H of the Code.

Pass-through events reduce the risk faced by the regulated business and thus, it is submitted, reduce cost of capital and hence overall costs to customers in the long term. Pass-through events may also replicate the outcome of a competitive market where these costs impacts can typically be passed directly through to customers in the short term.

At the same time, overuse of pass-through items can dull the incentive properties of the regulatory regime, impose additional administrative costs on the business and the regulator, and create uncertainty for users.

The commission notes that the proposed pass-through events represent a significant extension of the events treated as pass-throughs under the 2001 access arrangement. It also notes that some of the events (e.g. a capital cost event, or a regulatory event) may require more comprehensive consultation, analysis and consideration than can be accommodated by the simplified annual assessment process—relative to the broader access arrangement revision process provided by section 2 of the Code.

²⁶ The Code was recently amended to provide specific guidance on the manner in which pass-through events should be treated.

The commission considers that broadly applied pass-through provisions may undermine the incentives to reduce costs. Such incentives, on the other hand, are promoted by price path mechanisms of the nature determined above to apply to ActewAGL (under these mechanisms, as tariff revenue is pre-determined over the access arrangement period, there is an incentive for service providers to seek to achieve cost efficiencies in accordance with the objectives in section 8.1 of the Code).

The commission is also aware that generally, under section 2 of the Code, a service provider is not precluded from seeking an access arrangement revision at any time. This general process under the Code can be considered appropriate for major events, such as a capital cost event, or a regulatory event requiring comprehensive consultation, analysis and consideration in excess of that which could be accommodated by an annual assessment process. Moreover, the events, and the materiality of their effects necessary to give rise to a pass-through application, are not sufficiently well defined in ActewAGL's proposed access arrangement.

Some pass-through mechanisms produce bias in favour of service providers through only the service provider being able to lodge pass-through applications. In that case the service provider would have an incentive to lodge a pass-through application where a defined event had a negative effect, but would not have an incentive to lodge an application where the event had a positive effect.

The commission recognises that ActewAGL has sought to deal with this potential concern by providing the commission with the ability lodge pass-through applications, pursuant to the terms of the access arrangement. The commission considers that such an arrangement would reduce, rather than remove, such bias in favour of the service provider. This is because the service provider would generally have more detailed knowledge of the pass-through events, including the fact that they have occurred, or are occurring.

For the reasons above, the commission is not prepared to accept the full range of pass-through events as proposed by ActewAGL. Given the information before it, the commission is not satisfied that a trigger event adjustment approach for the full range of those events is consistent with the objectives set out in section 8.1 of the Code.

However, the commission is prepared to accept that the defined pass-through events in the 2001 access arrangement should continue to apply. At this

stage, only these pre-existing pass-through arrangements would be accepted as being part of the approved reference tariff variation method to apply during the forthcoming access arrangement period to the ACT natural gas pipeline system (the other aspect of the approved reference tariff variation method comprises the CPI-related price path mechanism as varied by the commission's draft decision in Section 11.5.2 above).

11.5.4 Link between tariffs and service standards

There is a strong link between price and standards of service, and the need for a mechanism to give ActewAGL a greater incentive to improve (or not to reduce) service standards needs to be carefully considered. The commission must therefore consider whether it is desirable to establish a formal link between tariffs and service standards.

The commission notes that GSLs already exist, via the Consumer Protection Code, whereby ActewAGL is required to provide rebates if certain service level requirements are not met. For example, ActewAGL is required to give two days notice of a planned interruption to supply, and where this does not occur affected customers are entitled to receive a \$50 payment.

The extension of these GSLs and/or introduction of S factors in the adjustment mechanism of ActewAGL's maximum allowable revenues would provide an incentive for ActewAGL to ensure that service standards continue to be met during the access arrangement period. Consistent with the Code, they would provide ActewAGL with greater incentives to ensure the reliable operation of the system, and would assist in replicating the outcome of a competitive market.

In considering whether such schemes would be consistent with the Code in this case, the commission would need to consider the full spectrum of costs and benefits associated with the introduction of such arrangements. This would involve trading off the cost of establishing appropriate service level benchmarks and data collection and payment arrangements against the potential benefits to customers from higher (or not reduced) service standards.

As noted above, while ActewAGL does not consider it appropriate to include a formal link between service standards and tariffs in the access arrangement, it considers options and issues for the development of a service standard incentive scheme should be examined.

The commission agrees with ActewAGL's comments that the development of such a scheme would require the resolution of a number of difficult issues. These issues include:

- the appropriate measures of service performance to use
- the practicalities of obtaining data on these measures
- the levels at which the incentive rates should be set
- how the impact of external events (such as bushfires) on service should be treated.

The commission considers that establishing a formal link between tariffs and service standards would provide an incentive for ActewAGL to ensure that service standards continue to be met during the access arrangement period, ensure the reliable operation of the system, and assist in replicating the outcome of a competitive market.

However, the commission currently has very little information regarding which service indicators would be appropriate to include in an S factor. The commission therefore proposes to work with ActewAGL and the community to develop the reporting information required for an S factor during the first year of the forthcoming access arrangement period.

Furthermore, after the information requirements are finalised, the commission will embark on a paper trial monitoring the S factor over the remaining years of the forthcoming access arrangement period. The costs and benefits of an S factor will be reviewed before confirming its introduction as part of the adjustment mechanism for the subsequent access arrangement period.

11.5.5 Fixed principles

The commission considers the fixed principles proposed by ActewAGL to be consistent with the Code. However, because the principles as specified in the proposed access arrangement are incomplete, in that ActewAGL has not proposed a fixed period for which the fixed principles will apply, the commission does not consider that it is able to approve ActewAGL's proposed provisions relating to fixed principles. The commission therefore proposes to require a fixed period to be specified in the access arrangement.

11.6 Other issues

Under section 7 of the ICRC Act, the commission has the following objectives in relation to regulated industries, access regimes, competitive neutrality complaints and government-regulated activity:

- promote effective competition in the interests of consumers
- facilitate an appropriate balance between efficiency and environmental and social considerations
- ensure non-discriminatory access to monopoly and near-monopoly infrastructure.

11.6.1 Impact on consumers

The current review of the gas access arrangement for the ActewAGL gas distribution system is carried out under the gas Code. In assessing the impacts on consumers it is relevant to note that the recommendations made by the commission relate only to the cost of gas distribution in the ACT. Other charges which are not affected by this decision include the costs of extraction, transmission and the retail margin.

If ActewAGL adopts the commission's recommendations the result will be a real decrease in the cost of gas distribution. The commission is recommending ActewAGL adopt a CPI minus 2.2 per cent price adjustment for distribution charges from 1 January 2005. This represents a nominal increase in gas distribution charges of approximately 0.3 per cent, assuming a CPI increase of 2.5 per cent in 2004–05. As the retail market for gas supply in the ACT has been contestable since 1 January 2002, it is expected that this real price reduction will be passed through to consumers by way of competitive pressures.

Gas distribution accounts for approximately 50 per cent of the final price of gas. As such there will be an approximate 0.15 per cent nominal increase in the price of gas which in real terms, assuming an inflation rate of 2.5 per cent, will result in a real 2.35 per cent decrease in gas prices.

The recently released Canberra Spatial Plan announces that a new concession will be introduced for households connected to gas. The ACT Government also adjusts rebates for ACT residents on low incomes to ensure

they are not disadvantaged by any gas price rise. Households in receipt of concessions are also offered advice on means to improve their energy efficiency.

The commission engaged organisations such as the Essential Services Consumer Council and ACT Council of Social Services by providing them with the copies of the issues paper released 27 February 2004 and inviting submissions. As noted elsewhere in this draft decision, the only submissions received in response to the issues paper were made by ActewAGL.

The commission also considers that the price settings will continue to provide the existing service levels in terms of network reliability. The commission believes this draft decision provides an appropriate balance between the interests of the business, consumers and public safety.

The commission has taken into account the impact of its recommendations on ACT consumers and believes they will not be adversely impacted by the proposed access arrangement.

11.6.2 Impact on the environment

The commission is required to adhere to the principles of Ecologically Sustainable Development (ESD) under section 3 of the Utilities Act. ESD requires integration of economic and environmental considerations in decision-making processes through the implementation of the following principles:

- the precautionary principle—that if there is a threat of serious or irreversible environmental damage a lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- the intergenerational principle—that the present generation should ensure that health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations
- conservation of biological diversity and ecological integrity
- improved valuation and pricing of environmental resources.

The commission has considered these principles and a range of environmental issues in reaching its draft decision.

The two main environmental impacts from the use of gas occur firstly in the extraction, refinement, transportation and distribution of gas and, secondly, in the greenhouse gas implications of its use.

The commission recognises that any review of gas distribution charges will have only minimal implications for the environmental impacts arising from gas extraction, refinement, transportation and distribution, as the draft decision is unlikely to lead to the alteration of current methods.

The greenhouse gas emissions associated with the use of gas, mainly as a source of hot water generation, heating and cooking, are less than those emissions related to the use of coal-fired electricity used for those domestic household purposes. The commission believes that the recommendations in this draft decision will encourage the continued use of gas in preference to electricity, and the associated reduced level of greenhouse gas emissions.

The commission engaged environmental organisations such as the ACT Commissioner of the Environment by providing them with the issues paper and inviting submissions. As noted elsewhere in this draft decision, the only submissions received in response to the issues paper were made by ActewAGL.

Key environmental standards are established for ActewAGL's operations by Environment ACT in accordance with the ACT *Environment Protection Act 1997* and the Environment Protection Regulations 1997. The commission believes that this draft decision will not adversely affect ActewAGL's ability to meet these requirements.

The commission has taken into account the principles of ESD and believes there will be no adverse impacts under the proposed access arrangement.

11.7 Draft decision

The total revenue requirement determined by the commission under the cost of service methodology in accordance with the principles and procedures discussed above in this draft decision represents an approximate 10.5 per cent reduction on the total revenue requirement proposed by ActewAGL over the forthcoming access arrangement period.

Given the reduced total revenue requirement determined by the commission, ActewAGL is to amend its proposed CPI-related price path mechanism so that the amended mechanism is designed to recover not more than the revised total revenue requirement.

The commission considers that broadly defined pass-through provisions as have been proposed by ActewAGL may undermine incentives to reduce costs, where such incentives are encouraged by the general nature of the price path mechanism proposed by ActewAGL. On this basis, the commission does not approve the additional pass-through provisions to those already applying under the 2001 access arrangement. In the case of major unexpected events that might not be dealt with under the revised pass-through provisions, the commission notes that ActewAGL would still have recourse to the general access arrangement revision process contained in section 2 of the Code.

The commission does not propose to require the establishment of a formal link between tariffs and service standards in this access arrangement. However, during the forthcoming access arrangement period the commission proposes to work with ActewAGL and interested persons towards determination of an appropriate S factor to be introduced as part of the adjustment mechanism for the subsequent access arrangement period.

The commission considers that the fixed principles proposed by ActewAGL are consistent with the Code. However, because the principles as specified in the proposed access arrangement are incomplete, in that ActewAGL has not proposed a fixed period to which the fixed principles will apply, the commission proposes to require a fixed period to be specified in the access arrangement in order to be able to approve the fixed principles.

In deciding upon the total revenue requirement, the commission took into account the environmental consequences and the possible impact on consumers and determined the effects would be minimal.

12 Extensions and expansions policy

The Code requires an access arrangement to set out an extensions and expansions policy, which under section 3.16 of the Code represents a policy for determining whether an extension to the covered pipeline or an expansion of the capacity of the covered pipeline is to be treated as part of the covered pipeline.

An ‘extension’ is generally considered to be an addition to the existing pipeline to provide services to customers that currently do not have a service. An ‘expansion’ is an increase in the capacity of the existing pipeline.

The key issues which arise in relation to an extensions and expansions policy are:

- whether or not an extension or expansion should be treated as part of the covered pipeline
- if the extension or expansion is to be treated as part of the covered pipeline, how that will affect reference tariffs.

12.1 Code requirements

Section 3.16 of the Code requires the extensions and expansions policy to set out:

- a method for determining whether an extension or expansion of the pipeline should be treated as part of the covered pipeline
- how any extension or expansion will affect reference tariffs
- if the service provider agrees to fund new facilities under certain conditions, a description of the new facilities and the conditions on which the service provider will fund these facilities.

Sections 8.25 and 8.26 of the Code relate to surcharges, which may be levied on users of incremental capacity in order for a service provider to recover

some or all of the cost of new facilities that cannot be recovered at the prevailing reference tariff (and so cannot be included in the capital base in subsequent access arrangement periods). Surcharges are required to be approved by the commission before being implemented.

12.2 2000 final decision

In its 2000 final decision, the commission concluded that expansions and extensions should normally be covered automatically and regulated under a single access arrangement. However, a ‘duplicate pipeline’ should not be included as part of the existing covered pipeline unless ActewAGL reasonably regards the duplicated pipeline as having system-wide benefits and provides the commission with written notice of the reasons for its view. If a duplicated pipeline is included as part of the covered pipeline, the capital base of ActewAGL’s natural gas pipeline system will not be increased by that capital expenditure unless ActewAGL can demonstrate that the new facility investment satisfies the tests set out in section 8.16 of the Code.

The commission required ActewAGL to adopt this approach to duplicate pipelines in the 2001 access arrangement in view of concerns it held at the time that duplication of pipelines, particularly in new areas, may not be economic.

The commission required ActewAGL to include the following statement in its extensions/expansions policy:

All expansions and extensions will normally be treated by ActewAGL as part of the existing Covered Pipeline and will automatically be included within it.

A ‘duplicate pipeline’ will not be included as part of the existing Covered Pipeline unless prior to the completion of its construction, ActewAGL reasonably regards the duplicate pipeline as having system benefits and gives the Relevant Regulator written notice of the reasons for its view. A ‘duplicate pipeline’ is a new pipe or pipeline constructed by or for ActewAGL which will be used to supply natural gas to Users, who, at the time construction is to commence, are being supplied by or may readily obtain supply from another pipe or pipeline.

12.3 ActewAGL proposal

ActewAGL's proposed extensions and expansions policy is set out in section 7 of its proposed access arrangement. In summary, it provides for:

- extensions or expansions that are included in the calculation of reference tariffs (that is, including those in the capital forecast discussed in Section 8 of this draft decision) to be automatically covered
- all other extensions and expansions to be automatically covered unless ActewAGL gives the commission written notice that the extension or expansion will not be a covered pipeline
- if the extension or expansion is covered, the reference services are to be generally offered at reference tariffs, although ActewAGL may charge users a surcharge or seek a capital contribution where permitted by the Code.

12.3.1 Coverage

In respect of the coverage issue, the proposed access arrangement contains two key changes from the 2001 access arrangement, under which:

- all extensions and expansions are automatically included as part of the covered pipeline
- a duplicate pipeline (a pipeline which is connected to the ActewAGL distribution network and constructed to supply gas to customers who already have a supply or may obtain supply from another pipeline) is not included as part of the covered pipeline unless ActewAGL reasonably regards the duplicate pipeline as having system-wide benefits and gives the commission written notice of the reasons for its view.

ActewAGL has deleted any reference to duplicate pipelines in the proposed access arrangement. ActewAGL has submitted that the most appropriate way to deal with duplicate pipelines is to treat them like any other pipeline—that is, they should enter the capital base only if they pass the tests in section 8.16 of the Code.

The proposed access arrangement also provides ActewAGL with the flexibility to exclude some extensions and expansions from coverage.

ActewAGL has noted that this is the approach taken by regulators in respect of access arrangements approved in other jurisdictions.

12.3.2 Tariff arrangements

The 2001 access arrangement provides for reference tariffs not to be affected by an extension or expansion. However, a surcharge (an additional annual charge in addition to the reference tariff to apply to users of the extension or expansion) may apply where the extension or expansion would otherwise not pass the tests in section 8.16 of the Code.

ActewAGL suggests the proposed access arrangement also generally provides for reference tariffs to be charged for an extension or expansion, but provides additional clarity regarding tariff arrangements. In addition to allowing ActewAGL to set a surcharge (where permitted by the Code), the policy makes clear that:

- ActewAGL may seek a capital contribution from users (a once-off contribution towards the cost of the extension or expansion) where permitted by the Code
- even if the whole of an extension or expansion does not pass the test in section 8.16 of the Code, the capital base may be increased by that amount of expenditure which passes the tests in section 8.16.

12.4 Issues paper responses

12.4.1 Coverage

ActewAGL considers that flexibility to exclude some extensions/expansions is reasonable and permitted under the Code and is also consistent with the policies in other revised gas access arrangements (for example, GasNet, and Envestra in Victoria, Queensland and South Australia).

ActewAGL noted the ESCV's final decision on the Victorian distributors' revised access arrangements concluded that the decision on whether to automatically cover all extensions to pipelines involves trade-offs between a number of factors. Automatic coverage of all extensions may reduce uncertainty and regulatory costs, but it may not be in the distributor's legitimate business interests to have all new pipelines with different

characteristics to the rest of the network covered by the initial access arrangement.

ActewAGL has submitted that duplicate pipelines should not be treated as a special case. It submitted that the commission's concern in its 2000 final decision that duplicate pipelines may be uneconomic is addressed through the application of the tests in section 8.16 of the Code.

12.4.2 Tariff arrangements

ActewAGL has submitted that conditions under which the capital base may be adjusted are spelt out clearly in the proposed access arrangement.

12.5 Consideration of issues

12.5.1 Coverage

In considering ActewAGL's proposal in relation to coverage of extensions and expansions, the commission has considered a range of issues including:

- the requirements of the Code, including sections 2.24, 3.16 and 8.16
- that, if extensions or expansions are excluded from coverage, reference tariffs will no longer apply to users of these services
- the potential for stranded asset risk if the service provider is not able to connect sufficient numbers of new customers
- the ability to roll in the assets between new and existing operators
- regulatory issues including the need to quarantine costs and revenues attributable to extensions and expansions.

Treating extensions and expansions as part of the existing distribution system has a number of advantages, including:

- it avoids the possibility that a number of access arrangements covering a single system, which may make it difficult for users to understand the terms and conditions of access, will exist

- it eliminates the need for costs and revenues to be quarantined and allocated across different regulatory instruments
- it would reduce delays to access that may occur if it was necessary to go through the coverage process in the Code (section 1) for each extension and expansion.

On the other hand, allowing a service provider to have an expansion or extension separately assessed for coverage under section 1 of the Code is likely to be in the interests of the service provider.

On balance, the commission considers that there are advantages in expansions and extensions being covered automatically and regulated under a single access arrangement. However, it is considered reasonable for ActewAGL to have the option of a significant extension or expansion being treated as a stand-alone pipeline and therefore not covered automatically, subject to providing written notice to the commission prior to the extension or expansion entering service.

It should be noted that while such a significant extension or expansion may not be covered under ActewAGL's access arrangement for the ACT natural gas pipeline system, this does not remove the extension or expansion from the ambit of the coverage provisions of section 1 of the Code. Further, the issue of whether the extension or expansion is 'significant' shall be decided by the commission pursuant to a written notice being received from ActewAGL in accordance with the above.

The exception from coverage under the access arrangement for the ACT natural gas pipeline system should not apply where the extension or expansion is included in the calculation of reference tariffs for the pipeline system.

12.5.2 Tariff arrangements

In relation to how an extension or expansion that is automatically covered should be priced, the commission considers it appropriate that reference services for that extension or expansion be offered at the reference tariffs.

In relation to the capital base, the commission considers that the capital base should be increased only where the extension or expansion meets the tests in section 8.16 of the Code. Where the extension or expansion does not meet

these tests, it is appropriate that ActewAGL charge users a surcharge or capital contribution.

The tariff arrangements as proposed by ActewAGL are considered by the commission to be consistent with provisions in the Code relating to new facilities investment, capital contributions and surcharges.

12.6 Draft decision

The commission proposes to approve ActewAGL's proposed 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. The commission proposes to require the access arrangement to be amended to require ActewAGL to give the commission written notice prior to an extension or expansion entering service.

13 Capacity management, trading and queuing policies

Under the Code, service providers are required to establish policies that set out how capacity on the covered pipeline can be accessed and how it will be allocated between users, particularly where available capacity is insufficient to meet demand.

One of the reasons the Code requires these policies to be in place is to allow the development of ‘secondary’ markets. If existing users are able to trade their capacity, and potential new users are confident they can get access to spare capacity when required, this will encourage participation in the gas market. The market will therefore become more competitive, efficient and responsive to customer needs.

These Code requirements, particularly the trading and queuing policy provisions, are also designed to ensure that the service provider does not unfairly favour one user over another in terms of enabling access to capacity.

13.1 Capacity management policy

13.1.1 Code requirements

Section 3.7 of the Code requires that an access arrangement must include a policy which states whether the covered pipeline is a contract carriage pipeline or a market carriage pipeline.

Section 10.8 of the Code, in defining ‘contract carriage’ and ‘market carriage’, provides examples of four points of distinction between the two methods of managing capacity on a pipeline, as summarised in Table 12.1.

Table 12.1 Methods of managing capacity on a pipeline

Feature	Contract carriage	Market carriage
Contractual entitlement	Users normally enter a contract that entitles them to a specified quantity.	Users are normally not required to enter into a contract that specifies a quantity.
Capacity management methodology	The service provider normally manages capacity by requiring that users not exceed their contracted quantities.	As contracts do not specify a quantity, this mechanism is not available. Service providers would be expected, instead, to buy interruptibility when required.
Basis for charging	Most of the charge normally is set on the basis of the contracted quantity.	Charges are normally based on actual use.
Tradability	Users normally have the right to trade the contracted quantity to others.	There are no rights to trade in capacity.

Section 3.8 of the Code provides that market carriage may only be adopted where the relevant minister has given a notice to the regulator permitting market carriage to occur. Such permission has not been sought or granted in the ACT.

13.1.2 2000 final decision

ActewAGL proposed in its 2001 access arrangement that the distribution system be a contract carriage pipeline. In its 2000 final decision, the commission noted that ActewAGL's capacity management policy accorded with the Code.

13.1.3 ActewAGL proposal

Consistent with the 2001 access arrangement, in section 10 of its proposed access arrangement ActewAGL specifies that its distribution system is a contract carriage pipeline.

13.1.4 Issues paper responses

ActewAGL's response to the commission's issues paper did not discuss its proposed capacity management policy.

13.1.5 Consideration of issues

The commission notes that ActewAGL's proposed capacity management policy is consistent with the Code.

13.1.6 Draft decision

The commission proposes to approve ActewAGL's proposed capacity management policy.

13.2 Trading policy

13.2.1 Code requirements

If a pipeline is a contract carriage pipeline, as is proposed here, section 3.9 of the Code requires the access arrangement to include a trading policy that explains the rights of a user to trade its right to obtain a service with another person. Under section 3.10 of the Code the trading policy must allow a user to:

- transfer capacity without the service provider's consent, if the obligations and terms under the contract between the user and the service provider remain unaltered by the transfer (a bare transfer)
- transfer capacity with the service provider's consent, in any other case
- change the delivery point or receipt point from that specified in any contract for the relevant service with the service provider's consent.

In the case of a bare transfer, the trading policy may require that the transferee notify the service provider prior to utilising the portion of the contracted capacity subject to the bare transfer and of the nature of the contracted capacity subject to the bare transfer, but must not require any other details to be provided.

In the case of other transfers, consent may be withheld by the service provider only on reasonable commercial or technical grounds, and the trading policy may specify conditions under which consent will or will not be granted and any conditions attached to that consent.

Section 3.11 of the Code provides the following examples of things that would be reasonable:

- (a) the Service Provider refusing to agree to a User's request to change its Delivery Point where a reduction in the amount of the Service provided to the original Delivery Point will not result in a corresponding increase in the Service Provider's ability to provide that Service to the alternative Delivery Point; and
- (b) the Service Provider specifying that, as a condition of its agreement to a change in the Delivery Point or Receipt Point, the Service Provider must receive the same amount of revenue it would have received before the change.

13.2.2 2000 final decision

In its 2000 final decision, the commission required ActewAGL to amend its trading policy by including the following statement:

ActewAGL will reply to any request from a User for ActewAGL's consent to a transfer (other than a Bare Transfer), or for a change of Receipt Point or Delivery Point, within 14 business days of receiving the request accompanied by information which is reasonably necessary to enable ActewAGL to consider the request.

If at the time the request is made, the User informs ActewAGL that due to hardship the User requires an urgent reply to its request, ActewAGL will use reasonable endeavours to respond to the request within two business days of receiving the request.

13.2.3 ActewAGL proposal

Section 8 of the proposed access arrangement sets out ActewAGL's proposed trading capacity. It provides for:

- bare transfers to be made, with the transferee being required to notify ActewAGL of certain details of the transfer
- other transfers to be made, subject to ActewAGL giving or withholding its consent, or imposing conditions on the transfer, on reasonable commercial and technical grounds.

No details of what might be considered to be ‘reasonable commercial and technical grounds’ are provided in the access arrangement, although section 8.5 does refer to section 3.11 of the Code, which provides examples of things that would be reasonable.

The proposed trading policy is very similar to the existing trading policy, with the key difference being that ActewAGL proposes to respond to urgent requests for trade in five days, rather than two days as in the 2001 access arrangement.

13.2.4 Issues paper responses

ActewAGL has submitted that there have been no trades or requests for trades during the 2001 access arrangement period, and for this reason it is difficult to judge whether the policy is sufficiently detailed for users. ActewAGL suggests its intention in drafting the policy has been to meet the needs of users while satisfying the Code, and it believes the policy does both. ActewAGL also believes that the timelines are reasonable.

13.2.5 Consideration of issues

The Code acknowledges that there need to be some limitations on the trading of capacity where the terms of the contract with the service provider are altered. This is particularly relevant for distribution systems where spare capacity on one part of the network does not necessarily translate to spare capacity being available elsewhere on the network.

The commission considers that the proposed trading policy complies with the Code.

The commission notes that the proposed policy is not proactive in promoting trading of spare capacity, such as providing a low-cost gas market electronic information service where, among other things, users could list any spare capacity they wished to trade. As IPART noted in its 1999 draft decision:

... it would be better for the market to establish facilities like an electronic bulletin board to encourage trading for the following reasons:

- gas transportation costs for users are driven mainly by MDQ charges
- users have an incentive to lower MDQ costs

- there may be a profit opportunity for a user(s) or an independent body to establish a trading facility
- leaving it to the market is likely to yield a better outcome than making it the responsibility of the service provider, whose revenue is derived largely from MDQ charges.²⁷

The commission considers that while ActewAGL may be best placed to provide such a service, because a third party is not prevented from offering such a service it is not necessary to require ActewAGL to provide a more proactive service.

The commission is concerned that the proposed increased response time for urgent requests for trade from two to five days may not be commercially acceptable to users. The commission therefore proposes to require ActewAGL to amend its 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. The commission notes that AGLGN's proposed access arrangement in New South Wales states that 'AGLGN will use reasonable endeavours to respond to the request within two business days of receiving the request'.

In its issues paper, the commission sought the views of interested persons on whether it would be useful for the trading policy to provide details of what might be 'reasonable commercial and technical grounds'. No submissions addressed this question. The commission had also raised the question with ActewAGL in making its 2000 final decision. ActewAGL's response at that time was that it may not be possible to define those grounds since each transfer would depend on individual circumstances. The commission welcomes further comments by interested persons on whether more clarification by ActewAGL can be provided.

²⁷ IPART, *Access Arrangement For AGL Gas Networks Limited Natural Gas System In NSW*, Draft Decision, 1999, p. 309.

13.2.6 Draft decision

ActewAGL proposes to change its trading policy by providing that it will take reasonable steps to respond to urgent requests for trade within five business days of receiving the request. The commission has not received any information which would support ActewAGL's proposed variation. The commission proposes to require ActewAGL to amend its proposed trading policy by providing that it will take reasonable steps to respond to urgent requests for trade within two business days of receiving the request. This is consistent with the 2001 access arrangement.

13.3 Queuing policy

13.3.1 Code requirements

System constraints and hence the benefits and need for trading in a distribution system are generally fewer than those for a transmission system. Therefore section 3.12 of the Code does not mandate an access arrangement to have a queuing policy unless the regulator requires it.²⁸

If an access arrangement is to include a queuing policy, that policy must set out the priority that a prospective user has to obtain access to spare capacity and developable capacity, compared with other prospective users. The queuing policy must:

- set out sufficient detail to enable users and prospective users to understand in advance how the queuing policy will operate
- accommodate, to the extent reasonably possible, the legitimate business interests of the service provider and of users and prospective users
- generate, to the extent reasonably possible, economically efficient outcomes.

The regulator may require the queuing policy to deal with any other matter, taking into account the matters listed in section 2.24 of the Code, and the

²⁸ Prior to the Fourth Amending Agreement coming into effect on 6 February 2003, a queuing policy was mandatory under the Code for all pipelines.

service provider must comply with the queuing policy (notwithstanding anything else contained in the Code).

13.3.2 2000 final decision

The queuing policy proposed in ActewAGL's 2001 access arrangement was as follows: where there is insufficient capacity to satisfy a request for service, a queue will be formed; when capacity becomes available to meet the needs of any prospective user on a queue, capacity will be offered progressively to each prospective user in order of priority; priority is given to requests for reference services over requests for negotiated services. Within these categories a 'first come, first served' basis is observed.

In its 2000 final decision, the commission noted that ActewAGL's queuing policy accorded with the Code.

13.3.3 ActewAGL proposal

ActewAGL has included a queuing policy in section 9 of its access arrangement. The proposed queuing policy is broadly consistent with the queuing policy in the 2001 access arrangement.

However, the proposed policy is more detailed than the existing policy and incorporates a number of amendments, including the following.

- In the 2001 access arrangement, a user was allowed a fixed 30 days after an offer was made to enter into a service agreement, failing which the request would lapse or lose priority. In the proposed access arrangement, additional flexibility has been added and ActewAGL may agree to reserve capacity for a nominated time to allow a transport services agreement to be finalised.
- The requirement in the 2001 access arrangement that users compensate ActewAGL for costs of holding capacity has been changed slightly. In the proposed access arrangement users must reimburse ActewAGL within 30 days of receipt of a notice setting out the details specified in the access arrangement.
- The proposed access arrangement clarifies arrangements for priority on the queue. The commission's interpretation of the policy is that the following priority of services is proposed:

1. all reference services other than short-term capacity
 2. negotiated services, including embedded network connection service
 3. short-term capacity.
- The following provisions have been added:
 - where a request is made for a service to a delivery point and ActewAGL is satisfied the request is for the same tranche which is already provided to the user or another user, ActewAGL may make that tranche available before satisfying any other requests in a queue
 - if either party raises a dispute under the Code in connection with a request, the request will not lapse and will retain its priority in the queue
 - if a request is placed in a queue, the user will demonstrate to ActewAGL on request that the user will have access to a sufficient supply of gas at the time it is anticipated to be offered access
 - ActewAGL will advise a user if their request for capacity is incomplete, and if the user completes the request within seven days the priority for queuing purposes will be based on the time and date the request was first received by ActewAGL.
 - The following provisions in the 2001 access arrangement have been removed:
 - ActewAGL will advise prospective users of its plans to make capacity available, and the terms and conditions on which capacity will be available
 - where ActewAGL determines that two or more requests relate to the same tranche of capacity for the same delivery point, all those requests will have the priority date of the earlier request.

No queues were formed during the 2001 access arrangement period.

13.3.4 Issues paper responses

ActewAGL has submitted that, given that no queues have formed during the 2001 access arrangement period, it is difficult to judge whether the queuing policy is sufficiently detailed for users. However, ActewAGL suggests that the proposed policy, which has been revised to set out queuing procedures and rights and obligations of both users and ActewAGL in more detail than the 2001 access arrangement, accommodates the legitimate business interests of the service provider and users. ActewAGL has submitted that the proposals provide more flexibility for users than the 2001 access arrangement, and ActewAGL's interests are also recognised with the requirement that users compensate ActewAGL for costs of holding capacity.

ActewAGL considers that by providing detailed information on queuing procedures and priorities on the queue, the access arrangement helps to reduce uncertainty, and therefore contributes to efficient outcomes. It argues the first come, first served principle helps to ensure that there is no discrimination between different users in the queue, which also promotes efficient outcomes.

13.3.5 Consideration of issues

As noted above, ActewAGL's proposed queuing policy is broadly consistent with the queuing policy in the 2001 access arrangement, which the commission found was consistent with the Code. The commission considers that the proposed revisions to the queuing policy provide further clarity and flexibility compared with the queuing policy in the 2001 access arrangement, and are consistent with the requirements of the Code.

The commission also notes that ActewAGL's proposed queuing policy is much more detailed than those of Multinet, TXU and Envestra in Victoria.

13.3.6 Draft decision

The commission proposes to approve ActewAGL's proposed queuing policy.

14 Term of access arrangement

14.1 Code requirements

Section 3.17 of the Code requires an access arrangement to set out the date at which the service provider will submit revisions to the access arrangement (a revisions submission date) and a date upon which the next revisions are intended to commence (a revisions commencement date).

Section 3.18 of the Code requires that if the access arrangement period is more than five years long, the regulator must not approve it without considering whether mechanisms should be included to address the risk that forecasts upon which the access arrangement was based and approved may prove incorrect. These mechanisms can include ‘trigger events’ which, if they occur, require revisions to the access arrangement to be made, or mechanisms that might return ‘excess’ profits to users.

Nothing in section 3.18 of the Code shall be taken to imply that the regulator may not approve an access arrangement period longer than five years if the regulator considers this appropriate, having regard to the objectives of section 8.1 (section 3.19 of the Code).

14.2 2000 final decision

In its 2001 access arrangement, ActewAGL sought a five-year access arrangement period from 1 July 1999 to 30 June 2004. ActewAGL proposed a revisions submission date of 10 December 2003.

In its 2000 final decision, the commission decided that the new access arrangement would commence after the final approval (the final approval specified a commencement date of 1 February 2001) and expire on 30 June 2004. The revisions commencement date will therefore be 1 July 2004 or the date specified in the final approval of ActewAGL’s revised access arrangement, whichever is the later. The commission required ActewAGL to set the revisions submission date at or before 30 June 2003.

As noted in Section 1, ActewAGL sought from the commission an extension of the life of the 2001 access arrangement, to 31 December 2004, which the commission subsequently granted.

14.3 ActewAGL proposal

The revised access arrangement is proposed by ActewAGL to apply from 1 January 2005 to 30 June 2010. ActewAGL has proposed that it will submit revisions to the 2005 access arrangement on 30 June 2009, to take effect on 1 July 2010.

This provides for a five-and-a-half-year access arrangement period and will give the commission 12 months to assess the revisions. This proposed timing is to provide for the access arrangement period to be based around the financial year rather than the calendar year, which is consistent with ActewAGL's reporting timeframes.

ActewAGL has proposed that, should the revisions commencement date be later than 1 July 2010, reference tariffs and terms and conditions in place at 30 June 2010 will continue to apply until the revisions commencement date.

14.4 Issues paper responses

ActewAGL does not believe that mechanisms to address possible mistaken forecasts should be included in the access arrangement. It suggests that cost pass-through allows for significant unexpected events to be taken into account.

ActewAGL also expressed the view that the option of the commission dealing with major changes through the forthcoming access arrangement period with a full review of the access arrangement would be likely to incur regulatory costs that would more than offset any benefits.

14.5 Consideration of issues

In considering the proposed term of the revised access arrangement the commission has had regard to the objectives set out in section 8.1 of the Code.

Access arrangement periods are typically five years long. Shorter regulatory periods provide for greater certainty of outcomes to users and service providers, and may be particularly appropriate where rapid industry change is occurring, or where forecasts are known to be uncertain. However, shorter regulatory periods increase the frequency of regulatory reviews and hence impose costs on the regulator and business, and of themselves create some uncertainty. Longer regulatory periods provide greater incentives for achieving efficiency and may lead to lower business risk and better investment decisions.

As required under section 3.18 of the Code, the commission has considered whether the proposed access arrangement should include mechanisms to address the risk that the forecasts on which the arrangements are based and approved may prove to be incorrect.

As noted, the proposed access arrangement includes a number of pass-through events which may cause changes to reference tariffs during the access arrangement period, should they occur. Also, as noted in Section 11 of this draft decision, the commission does not accept the full range of pass-throughs proposed by ActewAGL.

The commission has considered whether proposed revised access arrangements should include mechanisms to address the risk that the forecasts on which the terms of the access arrangement are based and approved may prove to be incorrect. The commission notes that ActewAGL's proposed term of five and a half years is not materially greater than five years. Further, it does not appear that the level of uncertainty around ActewAGL's longer term operating and capital expenditure projections warrants a reduction in the term of the access arrangement.

The commission is also of the view that the pass-through events included in the access arrangement will manage some of the risk associated with external events. In any event, ActewAGL is not precluded from utilising the general access arrangement revision process under section 2 of the Code in order to deal with the effects of major unforeseen events. The commission would welcome the views of ActewAGL and users on the need for additional mechanisms to address the risk associated with forecasting over the five-and-a-half-year period of the proposed access arrangement.

14.6 Draft decision

The commission proposes to approve ActewAGL's proposal for a regulatory period from 1 January 2005 to 30 June 2010, with a revisions submission date of 30 June 2009.

Appendix 1 Draft decision

The commission has considered ActewAGL's proposed access arrangement revisions and its response to the commission's issues paper and has also taken account of further information provided by ActewAGL in connection with the proposed revisions. The commission has commented on matters raised where this has been considered appropriate.

Pursuant to section 2.35 of the Code, the commission proposes not to approve ActewAGL's proposed access arrangement revisions as lodged with the commission. The reasons why the commission proposes not to approve the revisions are provided fully in this draft decision.

The amendments (or nature of the amendments) that would have to be made to the revisions in order for the commission to approve them are set out in the relevant sections of this draft decision and are listed below.

ActewAGL is requested to resubmit its proposed revisions to the access arrangement, so as to incorporate the amendments specified in this draft decision, or to otherwise address the matters identified in this draft decision as being the reasons for requiring the amendments as specified herein.

The commission requires ActewAGL to resubmit its proposed revisions by 13 August 2004, which is the date that the commission has set pursuant to section 2.36(b) of the Code for persons to provide submissions on this draft decision.

In order for ActewAGL's proposed access arrangement revisions to be approved, the commission requires the following amendments:

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 Yarrowlunla by a person other than ActewAGL.

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.

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.

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.

Amendment 5

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

Amendment 6

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

Amendment 7

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

Amendment 8

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

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.

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.

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.

Amendment 12

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

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.

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.

Amendment 15

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

Amendment 16

ActewAGL must revise the parameter values (in the form of ‘P⁰’ 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.

Amendment 17

Where ActewAGL proposes to amend the access arrangement in compliance with Amendment 16 by amending the ‘P⁰’ 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.

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.

Amendment 19

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

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.

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).

Appendix 2 List of submissions

- Initial submission from ActewAGL, covering proposed revisions to the 2001 access arrangement, received in December 2003 (before the release of the commission's issues paper)
- Revised submission from ActewAGL, received in January 2004
- Submission from ActewAGL in response to the issues paper, received in April 2004
- ActewAGL response to the MMA draft report, received in May 2004

ActewAGL provided supplementary information to the commission in relation to each of its formal submissions. The commission has taken that information into account in arriving at its draft decision.

Glossary and abbreviations

ACCC	Australian Competition and Consumer Commission
ACG	Allen Consulting Group
ACQ	annual consumption quantity
ACT	Australian Capital Territory
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	capital expenditure
CAPM	capital asset pricing model
COAG	Council of Australian Governments
Code, the	National Third Party Access Code for Natural Gas Pipeline Systems
commission, the	Independent Competition and Regulatory Commission
CPI	consumer price index as published by the Australian Bureau of Statistics
ECG	Energy Consulting Group
EGP	Eastern Gas Pipeline
ESCOSA	Essential Services Commission of South Australia
ESCV	Essential Services Commission of Victoria
GJ	gigajoules
GSL	guaranteed service level
GST	goods and services tax
HDD	heating degree days
ICRC Act	<i>Independent Competition and Regulatory Commission Act 1997</i>
IPART	Independent Pricing and Regulatory Tribunal (of NSW)
IPARC	ACT Independent Pricing and Regulatory Commission (became the ICRC in 1997)
kPa	kilopascals
MCE	Ministerial Council on Energy
MDQ	maximum daily quantity
MHQ	maximum hourly quantity
MMA	McLennan Magasanik Associates
MRP	market risk premium
NERA	National Economic Research Associates
O&M	operating and maintenance (costs)
OBA	operational balancing agreement

opex	operating expenditure, or non-capital costs
OTTER	Office of the Tasmanian Energy Regulator
PB	Parsons Brinckerhoff
QCA	Queensland Competition Authority
RBA	Reserve Bank of Australia
TJ	terajoules
TWAW	Think Water Act Water
UAG	unaccounted for gas
Utilities Act	<i>Utilities Act 2000</i>
WACC	weighted average cost of capital

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