



ICRC

independent competition and regulatory commission

Issues paper

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

February 2004

The Independent Competition and Regulatory Commission (the commission) was established by the *Independent Competition and Regulatory Commission Act 1997* (ICRC Act) 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.

The commission has three commissioners:

Paul Baxter, Senior Commissioner
Robin Creyke, Commissioner
Peter McGhie, Commissioner.

Submissions, correspondence or other enquiries may be directed to the commission at the addresses below:

The Independent Competition and Regulatory Commission
PO Box 975
CIVIC SQUARE ACT 2608

Level 7 Eclipse House
197 London Circuit
CIVIC ACT

The secretariat may be contacted at the above addresses, by telephone on 6205 0799, or by fax on 6207 5887. The commission's website is at www.icrc.act.gov.au and its email address is <icrc@act.gov.au> or <ian.primrose@act.gov.au>.

For further information on this investigation or any other matters of concern to the commission please contact Ian Primrose, Chief Executive Officer, on 6205 0779.

Foreword

The Independent Competition and Regulatory Commission (the commission) is undertaking a review of ActewAGL's proposed access arrangement governing third-party access to the natural gas distribution system in the Australian Capital Territory, Queanbeyan and Yarrowlumla. Amongst other things the access arrangement sets out the tariffs that must 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. This access arrangement was due to expire on 31 December 2003; however, ActewAGL sought from the commission an extension on the expiry date to 31 December 2004, 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 commission proposes to follow the following process for this review:

<i>Event</i>	<i>Date</i>
Issues paper released	Friday, 27 February 2004
Submissions on the issues paper due	Thursday, 8 April 2004
Draft decision	Friday, 16 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

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.

This issues paper is the first step in the public consultation and information process. The commission is seeking to encourage submissions and community views on all aspects of the review. Submissions can be made on any aspect of the access arrangement, including the specific questions posed by the commission in this document.

After the release of a draft decision by the commission, there will again be an opportunity for further submissions from the public.

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

Contents

Foreword	iii
1 Introduction	1
1.1 The statutory framework	1
1.2 The review process	4
1.3 Outline of this issues paper	6
2 Background to the ACT gas market and ActewAGL’s proposed access arrangement	9
2.1 ActewAGL and the ACT gas market	9
2.2 Overview of ActewAGL’s proposed access arrangement	9
2.3 Retail gas prices and full retail contestability	18
2.4 Review of the gas access regime	19
2.5 Proposals for a single national energy regulator	21
3 Services policy	23
3.1 Code requirements	23
3.2 ActewAGL proposal	23
4 Terms and conditions	29
4.1 Code requirements	29
4.2 What is ‘reasonable’?	29
4.3 ActewAGL proposal	30
5 Operating cost forecasts	39
5.1 Code requirements	39
5.2 ActewAGL proposal	39
5.3 Cost allocation	43
5.4 Ring fencing	44

6	Capital expenditure and the capital base	47
6.1	Determining the opening capital base	49
6.2	The forecast capital base	51
7	Demand forecasts	57
7.1	Code requirements	57
7.2	ActewAGL proposal	57
7.3	The commission’s approach	60
8	Cost of capital	63
8.1	Overview	63
8.2	Code requirements	66
8.3	ActewAGL proposal	66
9	Reference tariffs and reference tariff policy	75
9.1	Code requirements	76
9.2	ActewAGL proposal	77
10	Extensions/expansions policy	89
10.1	Code requirements	89
10.2	ActewAGL proposal	90
11	Capacity management, trading and queuing policies	93
11.1	Capacity management policy	93
11.2	Trading policy	94
11.3	Queuing policy	96
12	Other issues	99
12.1	Review and expiry of the access arrangement	99
Appendix	Questions raised in issues paper	101
	Glossary and abbreviations	106

Tables

Table 2.1	ActewAGL operating expenditure, actual and forecast, 2001–04	11
Table 2.2	ActewAGL operating expenditure, projected, 2004–10	11
Table 2.3	ActewAGL capital expenditure, actual and forecast, 2001–04	12
Table 2.4	ActewAGL capital expenditure, forecast, 2005–10	13
Table 2.5	ActewAGL gas demand forecasts, 2005–10	14
Table 2.6	ActewAGL forecast revenue requirement, 2005–10	15
Table 2.7	ActewAGL proposals for tariff changes, 2003–04 to 2004–05	16
Table 3.1	Minimum service standards in the Consumer Protection Code	27
Table 5.1	ActewAGL non-capital costs, commission forecast and actual, 2001–04	40
Table 5.2	ActewAGL performance against indicators, 2001–04	40
Table 5.3	ActewAGL operating expenditure, actual 2000 and forecast 2005–10	41
Table 6.1	ActewAGL opening capital base, 2000–04	50
Table 6.2	ActewAGL capital expenditure, commission forecast and actual, 2001–04	50
Table 6.3	ActewAGL forecast capital base, 2005–10	51
Table 6.4	Asset lives	52
Table 6.5	Inflation forecasts, 2005–10	52

Table 6.6	ActewAGL forecast capital expenditure, 2005–10	53
Table 6.7	ActewAGL forecast capital expenditure, by asset type, 2005–10	53
Table 6.8	Standard operating pressures to be maintained (kPa)	54
Table 7.1	Residential market consumption, ActewAGL forecast, 2005–10 (TJ)	58
Table 7.2	Business market consumption, ActewAGL forecast, 2005–10	59
Table 7.3	Contract market consumption, ActewAGL forecast, 2005–10	60
Table 8.1	WACC parameters, ActewAGL proposal and recent regulatory decisions	67
Table 8.2	WACC debt margin, recently adopted values	70
Table 8.3	WACC market risk premium, recently adopted values	71
Table 8.4	WACC asset, debt and equity beta, recently adopted values, various industries	72
Table 8.5	WACC asset, debt and equity beta, recently adopted values, gas distribution industry	73
Table 9.1	ActewAGL, proposed allocation of costs, 2005–2010	78
Table 9.2	ActewAGL, proposed changes in tariffs, 2003–04 to 2004–05	80
Table 11.1	Methods of managing capacity on a pipeline	94

Figures

Figure 2.1	ActewAGL operating expenditure, actual and projected, 2000–01 to 2009–10	12
------------	--	----

Figure 2.2	ActewAGL capital expenditure, actual and projected, 2000–01 to 2009–10	13
Figure 5.1	ActewAGL operating expenditure, actual and projected, 2000–01 to 2009–10	42
Figure 6.1	ActewAGL actual and projected capital expenditure, 2000–01 to 2009–10	55

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 the services provided by the system.

ActewAGL's existing access arrangement (hereafter referred to as the 2001 access arrangement), which was approved by the commission in January 2001, was originally intended to apply until 31 December 2003. However, ActewAGL sought from the commission an extension of the life of this access arrangement to 31 December 2004, 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 as laws of the ACT through the operation of the *Gas Pipelines Access Act 1998*. Under the Act, the commission is the relevant regulator in relation to the ActewAGL natural gas 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 to approve or not approve the access arrangement, the commission will 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, which is given effect in the ACT by the Gas Pipelines Access Act.

The Code is implemented on the basis of separating pipelines into those that are ‘covered’ and those that are not. Pipelines that are not covered are not subject to the provisions of the Code, and are subject only to the anti-competitive provisions of the *Trade Practices Act 1974*.

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

The Code sets out the detailed regulatory principles and processes that the commission must follow when assessing the proposed access arrangement and subsequent revisions. It may only approve the proposed revisions if it is satisfied the revised 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/expansions policy
- a revisions submission date and revisions commencement date.

In assessing a proposed access arrangement, the commission is required to take into account the requirements of section 2.24 of the Code:

- 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 is also required to follow the process set out in the Code when deciding whether or not to approve proposed revisions. This is discussed in section 1.2.

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 2.28–2.48). 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 that either approves or does 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 commission

- 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
- issues a final decision within six months of receiving proposed revisions to an access arrangement.¹

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 proposes the following timetable for the remainder of this review:

<i>Event</i>	<i>Date</i>
Issues paper released	Friday, 27 February 2004
Submissions on the issues paper due	Thursday, 8 April 2004
Draft decision	Friday, 16 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.

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 gas transportation charges on the ActewAGL distribution network.

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

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 issues paper to be met, the commission will be required to make such an extension.

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

Clayton Utz will provide legal services to the commission as required.

While the commission has appointed these consultants to provide independent advice and detailed analysis, the final decision will be made by the commission alone.

1.3 Outline of this issues paper

This issues paper outlines the commission's process for conducting this review, and explains the context of the review and the key issues the commission will consider in making its decision.

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

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

Section 4 discusses issues regarding the terms and conditions under which ActewAGL proposes to offer access.

Section 5 discusses ActewAGL's forecast operating costs, corporate cost allocation and ring-fencing policies.

Section 6 discusses ActewAGL's forecast capital expenditure.

Section 7 discusses ActewAGL's forecast demand for gas.

Section 8 discusses ActewAGL's proposed cost of capital.

Section 9 discusses ActewAGL's proposed reference tariffs and the reference tariff policy.

Section 10 discusses ActewAGL's proposed extensions/expansions policy.

Section 11 discusses ActewAGL’s proposed queuing policy, capacity management policy and trading policy.

Section 12 sets out other issues relevant to the commission’s review of ActewAGL’s proposed revisions.

The commission invites submissions on the issues raised in this paper from interested parties. This includes responses to the specific questions raised by the commission in the various sections (and summarised in the appendix), as well as other views on the access arrangement. The commission particularly asks that those making submissions explain how their comments relate to the principles and objectives set out in the Code.

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 Bill 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 Shire.

Under the joint venture, the two distribution network businesses were combined as ActewAGL Distribution (referred to as 'ActewAGL' in this issues paper) 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's 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, amongst other things, changes in the gas market. Some of the factors cited by ActewAGL as influencing the changes include the following:

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

The main features of the proposed access arrangement, the contents of which are determined by the Code, are discussed below. A full copy of the proposed access arrangement documentation may be found on the commission's website <www.icrc.act.gov.au>.

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 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, 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 originally forecast by the commission, 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 regulatory period are shown in Table 2.2.

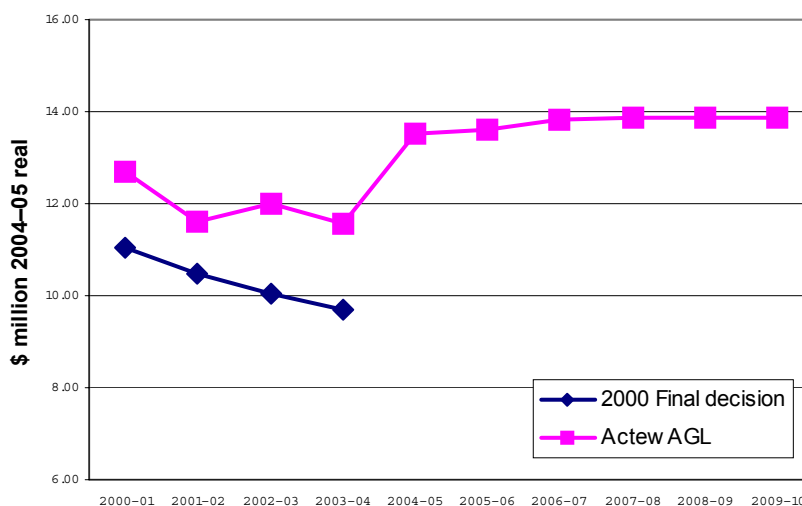
Table 2.2 ActewAGL operating expenditure, projected, 2004–10

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

Forecast expenditure grows in real terms each year and is higher than the actual expenditure for the current period. ActewAGL has indicated that its forecasts incorporate efficiency improvements of 1.5% per annum.

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 capital expenditure in the 2001 access arrangement period has been almost identical to that forecast in 2001, although annual differences have occurred because of higher than expected growth capital and a timing issue about connection to the Eastern Gas Pipeline.

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

Year ending 30 June	\$ million, real 2004–05				Total 2001–04
	2001	2002	2003	2004	
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

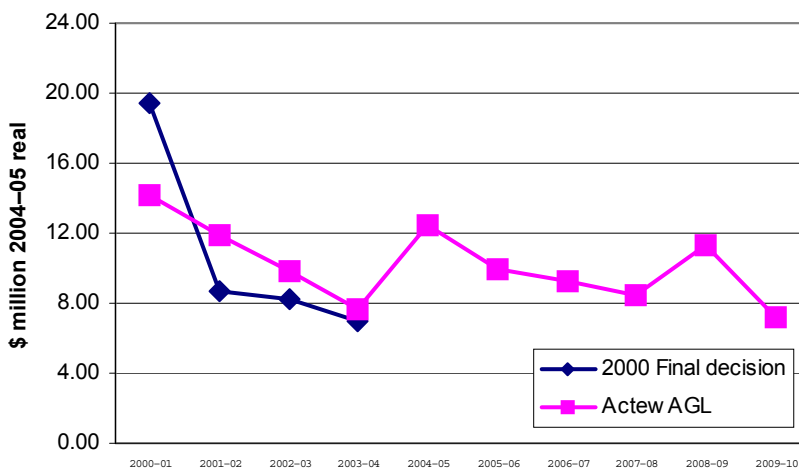
ActewAGL’s forecast expenditure is set out in the table below, and is marginally higher, on average, than expenditure in the current access arrangement period. The increase in expenditure in 2009 is due to higher augmentation expenditure in that year, notably that associated with the construction of 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 2000–01 to 2009–10.

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 that underpins its proposed access arrangement. The commission will need

to be satisfied that the forecasts represent best estimates arrived at on a reasonable basis. ActewAGL's forecasts are shown in Table 2.5.

Table 2.5 ActewAGL gas demand forecasts, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Residential tariff market (TJ)	4,839	5,003	5,162	5,317	5,469	5,617
Non-residential tariff market (TJ)	1,473	1,494	1,515	1,535	1,556	1,577
Contract market (maximum daily quantity)	5,695	5,604	5,512	5,419	5,327	5,235

In preparing its demand forecasts ActewAGL has made assumptions including the following:

- Average annual consumption by new residential customers will fall from 53.1 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 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 is also expected to decline because of 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%. In doing so it has assumed an effective tax rate of 30%.

2.2.7 Reference tariffs and reference tariff policy

ActewAGL has determined proposed tariffs using a 'building block' approach, 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.

ActewAGL has therefore determined its revenue requirement as shown in Table 2.6.

Table 2.6 ActewAGL forecast revenue requirement, 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 access arrangement period; however, because ActewAGL has forecast volumes to fall there will be annual real increases in tariffs of 1% to 1.5%.
- 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% to 0.4% 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) will not change in real terms.

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 maximum daily quantity 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 1,000.5 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 the contract market 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 access arrangement period. The result of this change will be to increase relative tariffs for those customers using around 5 GJ to 25 GJ per quarter. The majority of residential customers fall into this usage range.

ActewAGL is proposing that changes in the following cost items be passed through to users during the 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 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/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 where 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 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 Other issues

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

This provides for a 5.5-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 transportation of gas on ActewAGL's distribution network. It therefore does not address any of the other components of the final retail gas price, which will 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, customer invoicing and billing, and a profit margin.

On 1 January 2002 the supply of gas in the ACT became fully contestable: that is, all customers became free to determine the supplier from whom 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 are due to expire on 30 June 2004.

The cost of transporting gas through ActewAGL's distribution network represents approximately 48% of the final retail cost of gas. The default retail tariffs reflect the changes in 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 by users.

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

- 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.

It is 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. This would apply to proposed investments that are below the new coverage test.

The Productivity Commission is to submit its final report to the Australian Government in June 2004. It will then 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 that the commission considers any recommendations of the Productivity Commission and the 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.

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 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 has proposed the establishment of two new statutory bodies to undertake the tasks of rule making and market development, and network access regulation and market rule enforcement, respectively.

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

The Australian Energy Market Commission (AEMC) is to be established by 1 July 2004, with the core functions of rule making (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.

The MCE will establish a more structured and transparent code change process to be followed by the AEMC. The AEMC will initially focus on proposed changes to the National Electricity Code, and will take responsibility for the National Gas Code following MCE consideration of the Productivity Commission review of the gas access regime.

The Australian Energy Regulator (AER) will also be established by 1 July 2004, with initial responsibility for economic regulation of electricity wholesale and transmission networks and key rule enforcement functions. 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 will be responsible for the regulation of distribution and retailing (other than retail pricing) following development of a national framework for regulation of distribution and retailing activities. Work will commence on the framework in 2004 and MCE will consider the outcome in 2005. The AER is proposed to assume responsibility for the regulation of distribution and retailing by 2006.

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 they 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 ActewAGL proposal

3.2.1 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. These are:

- a single ‘tariff’ reference service—the transportation of gas to customers using less than 10 TJ per annum
- a number of ‘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 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.

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

3.1 Are the services proposed by ActewAGL consistent with users’ needs?

3.2 Are they sufficiently well-defined?

3.3 Are there any other services that are likely to be sought by a significant part of the market?

ActewAGL has proposed that the provision of non-reference services to new delivery points be restricted to cases where upstream pressure is less than 1,050 kPa and where the maximum daily quantity (MDQ) is at least 10 times the maximum hourly quantity (MHQ). ActewAGL has advised that the requirement that MDQ be at least 10 times MHQ, which was not a feature of the 2001 access arrangement, aims to encourage efficient utilisation of the network. It has also indicated that it will cease to offer the meter data services as a reference service if the service becomes contestable. In considering this proposal, the commission will review whether the Code permits a reference service to be withdrawn during an access arrangement period.

3.4 Are the restrictions on the availability of reference services reasonable?

3.2.2 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.

3.5 Is the fee for a request for service reasonable? Should ActewAGL be obliged to provide an estimate or cap on the cost of the service prior to a request being submitted?

3.2.3 Service standards

In determining efficient costs and forecasting revenues, 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 that service standards are maintained over the regulatory period and do not diminish in favour of increasing profits.

External service standard measures and standards are established under a range of instruments, including the Utilities Act, licence conditions, the Consumer Protection Code and ring-fencing guidelines. These obligations are referred to in section 3.5 of the proposed access arrangement as ‘minimum network standards’, and ActewAGL is required to comply with them and to report annually to the commission on its compliance. The commission publicly reports on utilities’ performance on an annual basis.

The minimum service standard requirements in the Consumer Protection Code are set out in Table 3.1.

However, these performance standards represent minimum standards and do not provide an incentive for ActewAGL to ensure that it is delivering services to the standard demanded by its customers. There is also no obligation to ensure that, where ActewAGL is exceeding the minimum standards, performance will not drop back to the minimum standard.

The relationship between service standards and formal tariff adjustments is discussed in section 9.

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

3.6 Are the service standards proposed by ActewAGL consistent with users’ needs and sufficiently well defined?

3.7 Should ActewAGL be required to ensure that service standards do not drop below existing levels?

Table 3.1 Minimum service standards in the Consumer Protection Code

Performance standard	Performance standard required	Rebate amount
1. Customer connection times	<p>If:</p> <ul style="list-style-type: none"> (a) a Customer's installation is physically connected to the electricity Network, the gas Network, the water Network or the sewerage Network (b) a Customer is entitled to supply of the relevant Utility Service or Services, <p>a Utility must provide those services:</p> <ul style="list-style-type: none"> (c) on the same day as the request is made if the request is made before 2 pm or (d) by the end of the next Business Day if a request is made after 2 pm, <p>otherwise, on a day agreed between the Customer and the Utility.</p>	\$60 for each day after the date the Utility Service or Services should have been provided until those services are provided.
2. Keeping agreed appointments	<p>(1) A Utility must:</p> <ul style="list-style-type: none"> (a) not be more than 30 minutes late for an agreed appointment with a Consumer, unless at least one hour's notice has been given to the Consumer that the Utility will be late (b) give 24 hours notice of the cancellation of an appointment. <p>(2) A Utility may, when making an agreed appointment with a Consumer, negotiate a timeframe in which the Utility must keep that appointment (for example, between 8 am and 11 am).</p>	\$20
3. Responding to written queries and complaints	<p><i>Customer account queries</i></p> <p>A Utility, upon receipt of a written customer account query, must:</p> <ul style="list-style-type: none"> (a) acknowledge the query within 10 Business Days (b) respond to the query within 20 Business Days. <p><i>Consumer complaints</i></p> <p>A Utility, upon receipt of a written Consumer complaint in relation to the supply by the Utility of a Utility Service to the Consumer, must:</p> <ul style="list-style-type: none"> (a) if a visit to the Consumer's premises or enquiries of a third party are necessary, acknowledge the complaint within 10 Business Days and respond within 20 Business Days or (b) in all other cases, respond to the complaint within 10 Business Days. 	\$20

Performance standard	Performance standard required	Rebate amount
4. Response time to consumer notification of problem or concern	<p>A Utility notified by a Consumer of a problem or concern with the Utility's Network that affects the Consumer must:</p> <p>(a) if the notification relates to damage to the Utility's Network which is likely to affect public health or is causing, or has the potential to cause, substantial damage or harm to a person or property, respond as soon as practicable and within six hours</p> <p>or</p> <p>(b) in all other cases, respond within 48 hours.</p>	\$60 for each day after the day on which the response should have been provided, until that response is provided.
5. Planned interruptions to utility services	<p>(1) A Utility must give at least two days notice of a planned interruption to a Utility Service to each premises that will be affected by the interruption.</p> <p>(2) a Utility must take all steps that are reasonable and practicable to restore the supply of the service to affected premises as soon as possible, subject to other reasonable priorities and, in any event, within 12 hours of the initial interruption.</p>	\$50
6. Unplanned interruptions to utility services	<p>(1) A Utility must, within one hour of being advised of an interruption to a Utility Service, and as soon as practicable, establish a 24-hour telephone service in accordance with clause 19.3(1).</p> <p>(2) A Utility must take all steps that are reasonable and practicable to restore the supply of the relevant Utility Service to affected premises as soon as possible, subject to other reasonable priorities.</p>	\$20
7. Response time to notification of problem or concern by a third party	<p>A Utility notified of a problem or concern with the Utility's Network by a third party, i.e. a person other than the Consumer, must:</p> <p>(1) if the notification relates to a problem concerning the Utility's Network that is affecting public health or is causing, or has the potential to cause, substantial damage or harm to a person or their property, respond as soon as practicable and within six hours</p> <p>or</p> <p>(2) in all other cases, respond within 48 hours.</p>	nil

4 Terms and conditions

The terms and conditions of an access agreement 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 What is ‘reasonable’?

The commission considers that the following matters may be relevant to its determination of whether the terms and conditions on which the service provider will supply each reference service will be likely to be reasonable:

- whether the terms and conditions are adequately well defined to allow a reference tariff for that service to be defined, and to minimise the likelihood of a dispute over access
- whether the benefits for the market as a whole from the terms and conditions outweigh the costs imposed on users—terms and conditions should not impose barriers to entry or reduce competition in related markets, and technical standards imposed should pass a cost–benefit test.

In determining whether a particular term or condition is reasonable, the commission will have regard to such other matters as it considers to be relevant, including whether the term or condition is a typical feature of arrangements in the gas industry, and whether it is consistent with relevant legislation, codes and guidelines.

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 revised access arrangement, while 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 revised 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 revised 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 3.30 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 for users to comply with gas-testing requirements where quality is measured upstream of the network has been introduced (clause 3.45).
- A requirement 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 has been added (clause 3.46).
- Provisions noting that the provision of services is subject to a variety of factors—and that 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 specifying that the force majeure clauses do not apply to a party's failure to pay money or a user failing to ensure that gas delivered to a receipt point meets specifications has been added (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.

4.1 Are the revisions to general terms and conditions proposed by ActewAGL appropriate?

4.2 Are the other general terms and conditions still relevant and appropriate?

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
- maximum daily quantity (MDQ) and maximum hourly quantity (MHQ)
- basic metering equipment
- 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 Are the specific terms and conditions proposed by ActewAGL appropriate?

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 (called 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).

ActewAGL has argued that each of these clauses is consistent with the Code requirement (section 2.24) that the legitimate business interests of the supplier be taken into account.

4.4 Are the revisions to the curtailment of supply policy proposed by ActewAGL appropriate?

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 that deliveries from pipelines match receipts into the network.

ActewAGL has advised that the gas-balancing arrangements in attachment 5 of the revised access arrangement have been amended to take account of changing circumstances in the market, notably Duke Energy's refusal to sign the Operational Balancing Agreement (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 in its revised access arrangement 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.

ActewAGL considers that the balancing mechanism in the revised access arrangement provides flexibility for suppliers and their pipeline shippers to reach their own agreements, with agreement and overview from ActewAGL, and without the need for ActewAGL to be involved in purchasing and selling gas.

4.5 Are the gas-balancing arrangements proposed by ActewAGL appropriate?

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 also currently being reviewed by the New South Wales Department of Energy, Utilities and Sustainability.

4.6 Are the revisions to the gas quality specifications proposed by ActewAGL appropriate?

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

4.3.6 Establishment of receipt points

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

4.7 Are the provisions relating to establishment of receipt points proposed by ActewAGL appropriate?

4.8 Are the terms and conditions proposed by ActewAGL appropriate?

4.9 Are the terms sufficiently well specified that a reference tariff can credibly be defined for the services being offered?

4.10 Are the terms and conditions sufficiently well specified to minimise disputes over the terms and conditions of access?

5 Operating cost forecasts

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

5.1 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 and good industry practice, and to achieve the lowest sustainable cost in delivering the reference service.

Forecasts for 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 the service provider’s other activities. This is to ensure that competition and costs are not distorted or allocated 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.

5.2 ActewAGL proposal

5.2.1 The 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 5.1.

Table 5.1 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 allowed levels assumed it would take effect from July 2000.

Although costs were above forecasts, ActewAGL has provided performance indicators (Table 5.2) to demonstrate it has achieved efficiencies over the current period.

Table 5.2 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

ActewAGL has suggested that the indicators above compare favourably with service providers with less dense networks, such as Envestra in Queensland. However, they compare less favourably with service providers with denser networks, such as the Victorian gas distribution businesses.

5.2.2 Forecast operating expenditure

ActewAGL's forecast non-capital costs are shown in Table 5.3. ActewAGL has advised that the forecasts incorporate an efficiency improvement factor of 1.5%.

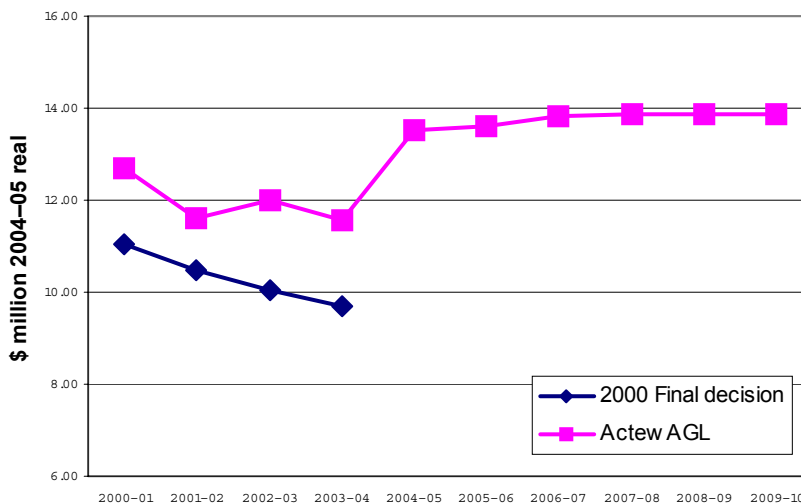
Table 5.3 ActewAGL operating expenditure, actual 2000 and forecast 2005–10

Year ending 30 June	Actual 2004	\$ million, real 2004–05					
		2005	2006	2007	2008	2009	2010
Controllable costs							
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 ^a	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

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

Figure 5.1 compares operating costs across the two regulatory periods.

Figure 5.1 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 in 2007, when the Hoskinstown metering station will be operated and maintained by ActewAGL.

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

- 5.1 Can trends in historical non-capital expenditure be used to forecast future expenditure?
- 5.2 Are the performance indicators provided by ActewAGL appropriate benchmarks for an efficient organisation?
- 5.3 Is the 1.5% efficiency improvement proposed by ActewAGL appropriate?
- 5.4 Is it reasonable to include the projected level of marketing expenditure in the forecasts?

5.3 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 like 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.

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 common costs which are not directly attributable. Proxies must then be found, to form the basis for allocation. The key is to determine an activity-based allocator which most closely reflects the actual cost drivers.

5.3.1 Importance of appropriate allocation

Joint costs need to be appropriately attributed or allocated to the various ActewAGL operating businesses to enable accurate cost recovery and to eliminate potential cross-subsidisation between different regulated businesses and between regulated and unregulated services. Of particular concern to the commission will be the apportionment of costs between

ActewAGL's regulated businesses and the apportionment of costs between the gas retail and the 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 will therefore develop a view as to the appropriateness of the cost drivers used to allocate costs to the gas distribution business and, where appropriate, assess the cost values allocated from each cost centre to the operating business against indicative benchmarks derived from other sources. Where cost levels appear to be beyond reasonable boundaries, further investigations will be conducted to ascertain the reasons why and, where necessary, make adjustments to the costs allocated.

5.5 Which areas are most likely to be susceptible to cost misallocation?

5.6 What benchmarks and methodologies would be applicable in assessing ActewAGL's allocation of joint costs?

5.7 What are the pitfalls in assessing the joint cost allocation of multi-utilities like ActewAGL?

5.4 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.

The introduction of competition into the gas market has necessitated the ring fencing of the regulated activity of gas distribution from the competitive retailing activity. In the ACT, both these activities 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. The 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.

5.4.1 Ring-fencing guidelines

The commission's requirements for ring fencing in the ACT are set out in '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 which ensure that 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 the treatment of a third party in the same commercial circumstances.

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

5.8 Are there any issues arising from the ring-fencing guidelines or the extent to which ActewAGL may have operated in a manner which may breach those guidelines, which may be relevant to the commission's assessment of the proposed revisions to the access arrangement?

6 Capital expenditure and the capital base

The ‘return of capital’ and ‘return on capital’ building-block components are determined by, amongst other things, the value of the capital base.⁵

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

The first step consists of updating the value of the capital base at the commencement of the 2001 access arrangement period to calculate its value at the start of the next regulatory period. This requires the regulator to take account of capital expenditure, depreciation, disposals and inflation over the 2001 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 also considers the reasonableness of the business’s response to the new information. The review does not involve a check against the performance of the business in achieving the level of capital expenditure set at the previous determination. Rather, it allows a business to adapt its capital expenditure program during a regulatory period in the event of new information or changed circumstances. As long as changes to the capital program are considered by the commission to have been prudent and efficient, the business is able to earn a return on the changed capital expenditure program during the next regulatory period.

⁵ The term ‘capital base’ is analogous to the term ‘regulatory asset base’.

- deciding how to include capital expenditure forecast for the final year of the 2001 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 the 2001 access arrangement period. However, because the 2001 access arrangement period has been extended to 1 January 2005, no forecasts exist for 2004 in any case.
- determining how regulatory depreciation will be calculated
 - The two main options are to adopt the forecasts of regulatory depreciation made in 2001, or to recalculate depreciation based on actual capital expenditure in the 2001 access arrangement period.
- identifying whether any capital was made redundant over the 2001 access arrangement period.

In the second step, the regulator assesses the proposed capital base over the next regulatory period by:

- taking into account the opening value of the capital base calculated in the first step above
- reviewing 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 next regulatory period
- taking account of forecast depreciation, disposals and inflation over the forecast 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. An assessment of typical productivity improvements in similar industries is often used as a guide. The efficient capital expenditure allowance is used as the basis for determining the revenue requirements of the business in the building-block methodology. By implication, only efficient capital expenditure earns a rate of return for the regulatory period.

The efficiency test also implicitly requires 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 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.

6.1 Determining the opening capital base

6.1.1 Code requirements

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

Section 8.16 of the Code enables capital expenditure in the previous access arrangement period to enter the opening capital base provided that:

- the amount 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
- one of the following conditions is satisfied:
 - the anticipated incremental revenue generated exceeds the cost
 - the regulator is satisfied that the capital expenditure has system-wide benefits that justify the approval of a higher reference tariff for all users
 - the capital expenditure is necessary to maintain the safety, integrity or contracted capacity of services.

6.1.2 ActewAGL proposal

ActewAGL has set out its calculation of the opening capital base as shown in Table 6.1.

Table 6.1 ActewAGL opening capital base, 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, 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 Eastern Gas Pipeline and ActewAGL's network reinforcement project.

Table 6.2 ActewAGL capital expenditure, commission forecast and actual, 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

In accordance with section 8.16 of the Code, the commission will assess the prudence of the expenditure incurred in the 2001 access arrangement period.

The commission will also investigate whether any capital was made redundant over the 2001 access arrangement period and should be removed from the capital base in accordance with ActewAGL’s redundant capital policy.

6.2 The forecast capital base

6.2.1 Code requirements

Section 8.20 of the Code enables reference tariffs to be determined on the basis of forecast capital expenditure, provided that the capital expenditure is reasonably expected to pass the requirements of section 8.16 of the Code.

Section 8.32 enables reference tariffs to reflect forecast depreciation over the access arrangement period. Section 8.33 requires depreciation to reflect the economic life of the asset group in question.

6.2.2 ActewAGL proposal

ActewAGL has set out its calculation of the forecast capital base as shown in Table 6.3.

Table 6.3 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

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 6.4)
- netted off capital contributions
- adopted the forecasts of inflation shown in Table 6.5 to determine the indexation amount for each year.

Table 6.4 Asset lives

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	as per accounting lives

Table 6.5 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

ActewAGL has identified disposals as including assets to be replaced or scrapped as the network ages. These include services disconnected, meters replaced prior to the end of their regulated asset lives, and other items such as regulators and valves that fail.

The forecast capital expenditure in each year of the next access arrangement period has been provided by ActewAGL, and is set out in Table 6.6. It includes distribution system capital for:

- growth market expansion, required to meet growth in customer numbers and connections
- growth capacity development, required to meet the needs of the overall network
- stay in business items, required for renewal and replacement of ageing network assets

- non-distribution system capital associated with network management.

Table 6.6 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

The forecast capital expenditure by asset type proposed by ActewAGL is set out in Table 6.7.

Table 6.7 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

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

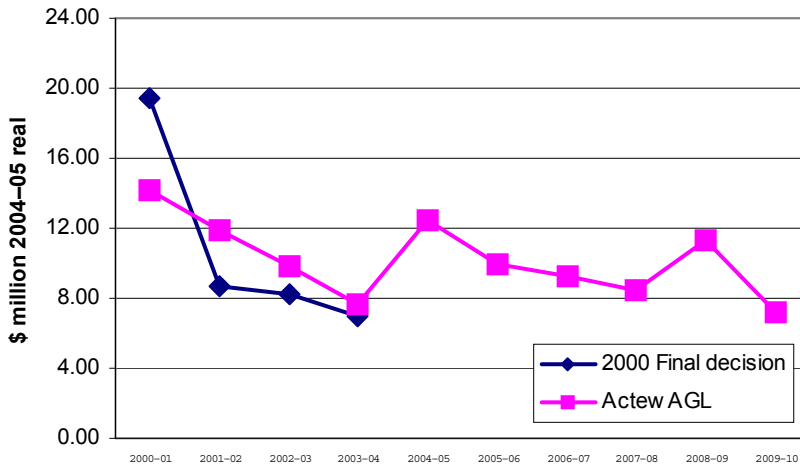
- based growth market expansion expenditure forecasts on market growth forecasts of annual quantity for the tariff and contract markets, and maximum daily quantity for the contract market
- based growth capacity development expenditure forecasts on network performance validation, used to identify the 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 6.8.

Table 6.8 Standard operating pressures to be maintained (kPa)

	Max. allowable operating pressure	Normal operating system min. pressure	Emergency system min. pressure	Standard metering pressure
Primary	7,000	1,750	1,700	n.a.
Secondary	1,050	525	400	100
Medium	210	70	40	35, 5, 2.75

Figure 6.1 compares capital expenditure across the two regulatory periods.

Figure 6.1 ActewAGL actual and projected capital expenditure, 2000–01 to 2009–10



6.1 Does the current service level warrant the extent of capital expenditure for ActewAGL to stay in business?

6.2 Has the system capacity been adequately utilised to justify the additional growth in capital expenditure?

6.3 The 2009 capital expenditure indicates a significant increase in capital expenditure for growth capacity. Given the trend in more efficient energy utilisation, is this a reasonable assumption?

7 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, the need to augment existing systems, and operational costs. They are also used to derive the prices needed to recover the required revenue over the regulatory period.

Under section 8.2(e) of the Code, in determining to approve a reference tariff and reference tariff policy, the commission must be satisfied that any forecasts required in setting the reference tariff represent best estimates arrived at on a reasonable basis. Demand forecasts need to include estimates of consumption, peak demand and customer numbers, amongst other things.

Under price-cap regulation, as proposed by ActewAGL, the service provider is exposed to volume risk. On one hand, if actual demand over the regulatory 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, the service provider has an incentive to understate forecasts for the regulatory period and make efforts to outperform the forecasts during the period.

7.1 Code requirements

The Code does not prescribe the manner in which demand forecasts must be constructed by the service provider or assessed by a regulator, with the exception of the requirement in section 8.2(e) that 'any forecasts required in setting the reference tariff represent best estimates arrived at on a reasonable basis.'

7.2 ActewAGL proposal

ActewAGL has provided volume forecasts for the residential tariff and the business tariff markets and volume and maximum daily quantity (MDQ) forecasts for the contract market. It has used the year 2002–03 as the starting

base to forecast consumption for 2003–04 (the last year in the current regulatory period) and then over the coming regulatory period from 2004–05 to 2009–10.

In 2002–03 total network throughput was 6,727 TJ, with 97,108 tariff customers and 38 contract customers forecast for June 2004.

7.2.1 The residential tariff market

ActewAGL has forecast that consumption in the residential tariff market will grow at an average of 3% per annum from 2004–05 to 2009–10. The forecast volumes are shown in Table 7.1.

Table 7.1 Residential market consumption, ActewAGL forecast, 2005–10 (TJ)

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

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

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

ActewAGL forecasts that the average and total consumption by existing residential customers will grow steadily at 0.45% per year, 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 period in the ACT is 2,100 houses compared with an average of 1,800 over the past few years. ActewAGL has estimated that 90.2% of new houses and 82% of other dwellings will be connected to gas. Growth in the number of 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 next regulatory 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 is forecast to remain stable over the period, at 38.6 GJ.

7.2.2 The business tariff market

Consumption in the business tariff market is forecast to grow at an average rate of 1.4% per year between 2004–05 and 2009–10. For existing business tariff customers, the average consumption is forecast to fall by 0.06% 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) is forecast to remain constant at 46 customers, the average for the past five years. Average annual consumption by new business tariff customers is forecast to remain stable at 493 GJ. Table 7.2 shows ActewAGL’s forecast business tariff market consumption for the regulatory period.

Table 7.2 Business market consumption, ActewAGL forecast, 2005–10

Year ending 30 June	2005	2006	2007	2008	2009	2010
Volume (TJ)	1,473	1,494	1,515	1,535	1,556	1,577

7.2.3 The contract market

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

Table 7.3 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 over the forecast period by one, to 39. 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.

7.2.4 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 because temperatures were warmer than average in that 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 forecast period—although this is presumably additive each year.

7.3 The commission's approach

In the commission's experience, key drivers of gas demand which will need to be considered when 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 heat, 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 elasticities 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
- number of single dwellings and multi-dwelling sites
- ACT or national energy policies, as well as town-planning requirements for reduced greenhouse gas emissions.

The commission will 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 will 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 situation and the nature of the market segment and 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.

7.1 What are likely to be the key drivers of gas usage in the ActewAGL network?

7.2 Is it reasonable to forecast decreases in average consumption for new residential customers and existing business tariff customers?

7.3 Is it reasonable to assume a continued warming trend in the gas consumption forecasts?

8 Cost of capital

8.1 Overview

As noted in Section 2 of this issues paper, ActewAGL has elected to determine its revenue requirement using a ‘building-block’ approach. One of the five building blocks proposed by ActewAGL represents the return on capital—that is, the cost of capital multiplied by the regulatory asset base. This component accounts for around 45% of ActewAGL’s total revenue requirement; therefore, the cost of capital is a key determinant of prices.

There are a number of approaches for calculating a return on capital. The weighted average cost of capital (WACC) is the method preferred by Australian regulators for determining a regulated utility’s cost of capital.

The rate of return ensures that the business has the resources to maintain an appropriate level of investment in infrastructure. If the commission were to allow too high a rate of return, this would lead to overinvestment in the business to the detriment of customers, who would be required to pay unnecessarily high prices. Too low a rate of return could make it difficult for the regulated business to finance (whether through debt or equity) essential infrastructure expenditure, ultimately affecting the ability of the business to deliver its services to customers. Balancing these impacts is a critical part of the commission’s decision-making process.

8.1.1 Calculating the WACC

The simplest formula for the WACC calculation is presented in equation (1):

$$WACC = R_e \times \frac{E}{V} + R_d \times \frac{D}{V} \quad (1)$$

where R_e is the nominal post-tax cost of equity, R_d is the nominal post-tax cost of debt, E is the total equity, D is the total debt and V is debt plus equity.

The WACC is therefore the sum of the returns to debt and equity, weighted by the share of debt and equity in the total value of the business.

The WACC calculation is affected by taxation and imputation credits, which require equation (1) to be modified as follows:

$$Post - tax WACC = \frac{R_e \times (1-t)}{(1-t) \times (1-\gamma)} \times \frac{E}{V} + R_d \times (1-t) \times \frac{D}{V} \quad (2)$$

where t is the tax rate and γ is the value of imputation credits.

The return to debt (R_d) is normally calculated by adding a debt margin to the risk-free market rate. Usually the debt margin is based on industry norms and the risk-free rate is generally based on the average of a period of time in the 10-year Australian government bond rate.

The return to equity (R_e) is normally calculated by application of the capital asset pricing model (CAPM). This approach is widely used by commercial businesses and regulators throughout Australia.

The CAPM formula is presented in equation (3) below:

$$R_e = R_f + \beta_e \times (R_m - R_f) \quad (3)$$

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, and R_m is the market rate of return.

In effect, the CAPM formula says that the return on equity for a particular business is the difference between the market return and the risk-free rate. The margin (and hence the β_e) reflects how risky the business is, compared with the rest of the market.

While the risk-free rate is generally observable in the market, the difference between the market return and the risk-free rate (also known as the market risk premium) generally reflects the long-term returns on equity in the market.

The equity beta (β_e or the degree of riskiness of the business relative to the market as a whole) can itself be calculated in various ways. The commission prefers to use the Monkhouse formula, which is presented in equation (4) below.

$$\beta_e = \beta_a + (\beta_a - \beta_d) \times \left(1 - \frac{R_d}{(1 + R_d) \times t} \right) \times \frac{D}{E} \quad (4)$$

where β_a is the correlation between return to assets of the business and the market (known as the asset beta), and β_d is the correlation between return to debt and debt generally in the market (known as the debt beta).

Decisions about the underlying parameters within the Monkhouse formula will result in the calculation of an equity beta range for the investigation. The calculated equity beta range will form the basis of the calculation for the WACC range.

Given these equations for the calculation of the WACC, the commission has to make choices about a range of parameters used in the calculation. These include:

- t , the tax rate
- γ , 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 other variables in the equations are either calculated, such as the risk-free rate, or known with some certainty from the business.

8.1.2 Pre-tax and post-tax approach

The application of the above approach provides a post-tax WACC. The commission can then choose to present the WACC as pre-tax or post-tax, based on an assumption about an appropriate tax rate to apply. In its decision on ActewAGL's 2001 access arrangement, the commission adopted a pre-tax real WACC, and applied the statutory tax rate. The commission has also subsequently adopted this approach in draft decisions made last year in respect of electricity network and water and wastewater prices in the ACT. In theory, the expression of the WACC as pre-tax or post-tax should have little impact on the revenue outcome for the regulated business when the building-block methodology is applied, although in practice differences arise.

The building-block methodology calculates the revenue requirement by adding up the various building blocks, including a block for a return to assets. If a post-tax WACC is used, the building block needs to reflect this by including the tax costs. If a tax block is excluded where a post-tax WACC is used, the rate of return to assets would in practice be lower because part of the return to assets would need to be used to pay taxes. Where a pre-tax WACC is determined, the payment of tax is incorporated into the rate of return, and no separate allowance is made for taxes. Under either approach, the commission would need to determine an appropriate allowance for taxation, either explicitly or through an additional rate of return. This requires a consideration of the appropriateness of using a statutory tax rate versus an effective tax rate. This is discussed below.

8.2 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 based on a well-accepted model such as the CAPM and the return adopted should be calculated by reference to a financing structure that reflects standard industry structures for a going concern and best practice.

8.3 ActewAGL proposal

ActewAGL has calculated a real, pre-tax WACC using the CAPM approach and adopting a statutory tax rate. ActewAGL assessed the WACC range as lying between 7.62% and 8.22%, and from within this range selected 7.9% as the appropriate return.

The rate of return adopted by the commission for the 2001 access arrangement was 7.75%.

Table 8.1 compares the parameters proposed by ActewAGL with a small sample of those adopted in other recent regulatory decisions.

Table 8.1 WACC parameters, ActewAGL proposal and recent regulatory decisions

Parameter	ActewAGL proposal	ICRC Water ^a	IPART Electricity ^b	ACCC Gas ^c
Risk-free rate	5.65%	5.82%	5.8%	5.29%
CPI	2.33%	2.34%	2.3%	2.19%
Real risk-free rate	3.49%	3.48%	3.5%	3.03%
Market risk premium	6.5–7.0%	6.0%	5.0–6.0%	6.0%
Debt margin	1.43%	1.425%	0.9–1.1%	0.92%
Gearing	60%	60%	60%	60%
Gamma	0.40	0.50	0.50	0.50
Asset beta	0.40	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%	6.74%	6.0–7.0%	6.50%
WACC (pre-tax nominal)	10.12–10.74%	9.62%	—	8.80%
WACC (pre-tax real)	7.62–8.22%	7.1%	6.2–7.6%	6.56%

a ICRC, *Draft Decision on Water and Wastewater Prices in the ACT*, December 2003.

b IPART, *Draft Decision on Electricity Network Prices in NSW*, January 2004.

c ACCC, *Final Decision on Access Arrangement for the Moomba to Sydney Pipeline*, October 2003. Note that the ACCC does not use the pre-tax approach adopted by the ICRC and IPART.

A brief discussion of each of the key parameters is provided below.

8.3.1 Tax rate

As noted above, the choice of tax rate has become the subject of much discussion in recent regulatory decisions.

The effective tax rate represents the actual tax paid by the business, taking into account tax laws that allow businesses to manage their tax payments through the claiming of deductions, through deferring tax payments and through other methods. The statutory tax rate is the government-set company tax rate, which is currently 30 cents in each dollar of profit. A WACC calculated using a statutory tax rate means those businesses that are able to reduce their tax liability below the statutory tax rate will receive higher returns than an efficiently operating regulated utility. The Essential Services Commission of Victoria (ESCV) and the Australian Competition and Consumer Commission (ACCC) have argued that using a statutory tax rate

allows the benefits of tax minimisation to be retained by owners, which is inconsistent with a competitive market model in which some of these benefits would be shared with customers. Instead of using a pre-tax approach, these regulators calculate tax liabilities directly and incorporate them in the building-block calculations, rather than adjusting for them in the WACC.

Further discussion on the use of a post-tax approach to the WACC and the calculation of an effective tax rate, as viewed by the ACCC, are set out in the final decision on the Moomba to Sydney Pipeline.⁶

However, the commission and some other regulators have found that considerable difficulties arise in calculating an effective tax rate for a business, because of the complexity of tax laws and the specific taxation arrangements for the business. The approach used in other jurisdictions requires a taxation consultant to be engaged to estimate the business's effective tax rate.

While conceptually the commission accepts that using an effective tax rate would be more theoretically correct, in previous regulatory decisions the commission has found that the level of intrusion and the associated costs are unlikely to outweigh any potential benefits, and on this basis the commission has preferred to use the statutory tax rate of 30%. This is the approach proposed by ActewAGL.

8.1 Is it appropriate for the commission to use a pre-tax approach to the calculation of the WACC?

8.2 Should the commission use a statutory tax rate or an effective tax rate in the WACC?

⁶ ACCC, *Final Decision on Access Arrangement for the Moomba to Sydney Pipeline*, October 2003, pp. 91–140. Note that this decision (including the rate of return) was the subject of a review by the Australian Competition Tribunal.

8.3.2 Dividend imputation credits (gamma)

The WACC formula takes account of the impact of dividend imputation credits, represented by the gamma. The choice of gamma reflects a view as to whether the CAPM 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 gamma would be set at zero. Conversely, if the marginal investor is a domestic investor, the dividend imputation credit would have full value, and the gamma should be set at 1.

Australian regulatory agencies have typically adopted a gamma of 0.5, giving some weight to both arguments, although ActewAGL has argued that a value of 0.4 is more appropriate.

8.3 What is an appropriate value of dividend imputation credits in the WACC?

8.3.3 Debt margin

The debt margin represents the percentage margin, above the risk-free interest rate, associated with debt. The debt margin is related to current market interest rates on corporate bonds, the maturity of the debt, the assumed capital structure and the credit rating.

Regulated utilities can be generally characterised as low-risk, with strong, steady cash flows, compared with non-regulated businesses.

ActewAGL has proposed a debt margin of 1.43%, which is consistent with that adopted by the ICRC in its electricity network and water and wastewater draft decisions in 2003. It includes a small margin for debt raising.

However, the commission notes that the draft value it has adopted for electricity and water is at the high end of those recently adopted by other regulators (see Table 8.2).

Table 8.2 WACC debt margin, recently adopted values

Regulator	Industry	Debt margin %
OTTER (2003) ^a	Electricity distribution	1.250
ICRC (2003) ^b	Draft electricity distribution, water and wastewater	1.425
ACCC (2003) ^c	Gas transmission	0.920
IPART (2004) ^d	Draft electricity distribution	0.900–1.100

a OTTER, *Investigation of Prices for Electricity Distribution Services and Retail Tariffs on Mainland Tasmania, Final Report and Proposed Maximum Prices*, September 2003.

b ICRC, *Draft Report and Draft Price Direction, Investigation into Prices for Water and Wastewater Services in the ACT*, December 2003, and *Draft Decision, Investigation into Prices for Electricity Distribution Services in the ACT*, November 2003.

c ACCC, *Final Decision on Access Arrangement for the Moomba to Sydney Pipeline*, October 2003.

d IPART, *NSW Electricity Distribution Pricing 2004–05 to 2008–09, Draft Report*, January 2004.

8.4 What is the appropriate debt margin to adopt in the WACC?

8.3.4 Market risk premium

The market risk premium (MRP) represents the additional return over the risk-free rate of return that an investor requires for the risk of investing in a diversified equity portfolio.

Historically based measures are the most widely used estimates of the MRP. This approach is simple but can yield considerably different results depending upon the chosen time horizon used in the sample of equity and risk-free returns. Other methods that can be used to estimate the MRP include supply-side approaches, surveys and extrapolation from foreign markets.

A number of studies have estimated the MRP within the Australian market. These have produced a range of MRPs from 3% to 8%. Recent decisions by regulators on the MRP have generally adopted a range in the order of 5% to 6%.

Table 8.3 WACC market risk premium, recently adopted values

Regulator	Industry	Debt margin %
OTTER (2003)	Electricity distribution	6.0
ICRC (2003)	Draft electricity distribution, water and wastewater	6.0
ACCC (2003)	Gas transmission	6.0
IPART (2004)	Draft electricity distribution	5.0–6.0

- a OTTER, *Investigation of Prices for Electricity Distribution Services and Retail Tariffs on Mainland Tasmania, Final Report and Proposed Maximum Prices*, September 2003.
- b ICRC, *Draft Report and Draft Price Direction, Investigation into Prices for Water and Wastewater Services in the ACT*, December 2003, and *Draft Decision, Investigation into Prices for Electricity Distribution Services in the ACT*, November 2003.
- c ACCC, *Final Decision on Access Arrangement for the Moomba to Sydney Pipeline*, October 2003.
- d IPART, *NSW Electricity Distribution Pricing 2004–05 to 2008–09, Draft Report*, January 2004.

ActewAGL has proposed an MRP of 6.50% to 7.0%. It has based this range on a review of empirical studies of historical data, and its view that the generally accepted range for the MRP among corporate finance professionals has been 6% to 8%.

8.5 What is the appropriate market risk premium to adopt in the WACC?

8.3.5 Asset beta, debt beta and equity beta

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 equity beta must be estimated, typically by reference to a group of listed entities which are considered to be operating in a similar environment. However, in doing so the effect that different levels of gearing have on the equity beta needs to be considered. This is achieved via the use of an asset beta, which is the equity beta that would apply if the firm was wholly financed by equity.

As noted above, the commission typically uses the Monkhouse formula to calculate the equity beta. The formula requires an assumption regarding the debt beta, which is the level of systemic risk borne by debt holders.

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 0.4. Table 8.4 compares a sample of recent regulatory decisions on betas.

Table 8.4 WACC asset, debt and equity beta, recently adopted values, various industries

Regulator	Industry	Asset beta	Debt beta	Equity beta
OTTER (2003)	Electricity distribution			0.95
ICRC (2003)	Draft electricity distribution, water and wastewater	0.40	0.06	0.90
ACCC (2003)	Gas transmission			1.00
IPART (2004)	Draft electricity distribution	0.35–0.45	0.00–0.06	0.78–1.11

- a OTTER, *Investigation of Prices for Electricity Distribution Services and Retail Tariffs on Mainland Tasmania, Final Report and Proposed Maximum Prices*, September 2003.
- b ICRC, *Draft Report and Draft Price Direction, Investigation into Prices for Water and Wastewater Services in the ACT*, December 2003, and *Draft Decision, Investigation into Prices for Electricity Distribution Services in the ACT*, November 2003.
- c ACCC, *Final Decision on Access Arrangement for the Moomba to Sydney Pipeline*, October 2003.
- d IPART, *NSW Electricity Distribution Pricing 2004–05 to 2008–09, Draft Report*, January 2004.

Given that the equity beta is an industry-specific parameter, it is also useful to examine the full range of betas recently awarded in the gas distribution industry.

Table 8.5 WACC asset, debt and equity beta, recently adopted values, gas distribution industry

Regulator	Asset beta	Debt beta	Equity beta
ESC (2002) ^a	0.40	0.00	1.00
SAIPAR (2001) ^b	0.50	0.12	1.06
QCA (2001) ^c	0.55	0.26	0.98
OffGAR (2000) ^d	0.55	0.20	1.07
ICRC (2000) ^e	0.45	0.06	1.03
IPART (2000) ^f	0.40–0.50	0.06	0.90–1.14
IPART (1999—Albury) ^g	0.40–0.50	0.06	0.90–1.14
IPART (1999—Wagga) ^h	0.40–0.50	0.06	0.90–1.14
ORG (1998) ⁱ	0.55	0.12	1.19

- a Essential Services Commission, *Review of Gas Access Arrangements, Final Decision*, October 2002.
- b South Australian Independent Pricing & Access Regulator, *Access Arrangement for Envestra Limited's South Australian Natural Gas Distribution System*, December 2001.
- c Queensland Competition Authority, *Proposed Access Arrangements for Gas Distribution: Allgas Energy Ltd and Envestra Ltd, Final Decision*, October 2001.
- d Independent Gas Pipelines Access Regulator, Western Australia, *Access Arrangement for Mid-West And South-West Gas Distribution Systems submitted by AlintaGas*, Final Decision, June 2000.
- e Independent Competition and Regulatory Commission, *Access Arrangement for ActewAGL Gas Distribution System in ACT, Queanbeyan and Yarrowluma, Final Decision*, November 2000.
- f Independent Pricing and Regulatory Tribunal, *Access Arrangement for AGL Gas Networks Limited Natural Gas System in NSW, Final Decision*, July 2000.
- g Independent Pricing and Regulatory Tribunal, *Access Arrangement for Albury Gas Company Limited, Final Decision*, December 1999.
- h Independent Pricing and Regulatory Tribunal, *Access Arrangement for Great Southern Energy Gas Networks Pty Limited, Final Decision*, March 1999.
- i Office of the Regulator-General, Victoria, *Gas Access Arrangements for Multinet, Westar and Stratus, Final Decision*, October 1998.

Source: ActewAGL.

8.6 What are the appropriate beta values to adopt in the WACC?

8.3.6 Gearing ratio

The calculation of the WACC is based upon an assumed level of gearing (debt to debt plus equity ratio) consistent with an efficiently operating business. All Australian regulators currently use a gearing ratio of 60%, and this is the value proposed by ActewAGL.

8.7 What is the appropriate gearing ratio to adopt in the WACC?

8.3.7 Working capital

ActewAGL has proposed the inclusion of a return on working capital of \$0.5 million to \$0.8 million as one of the cost building blocks. A return on working capital was included by the commission when approving the 2001 access arrangement.

However, in its recent draft decisions on electricity distribution and water and wastewater prices in the ACT, the commission declined to allow a return on working capital on the basis that the financial modelling approach adopted more than compensated the regulated businesses for the cost of any working capital. In particular, the commission argued that, while financial modelling assumes that the return on assets component of the revenue requirement is received at the end of the year, in reality it is actually received at regular intervals throughout the year, thus creating a benefit to the regulated entity.

However, the commission notes that in its recent decision on electricity distribution prices in NSW, the Independent Pricing and Regulatory Tribunal has allowed the electricity distribution businesses a return on working capital.

8.8 Is it appropriate that reference tariffs for reference services reflect a return on working capital?

9 Reference tariffs and reference tariff policy

The access arrangement must 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 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 objectives 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, which is one free of monopoly returns. In addition, tariffs are required to be cost-reflective. This will promote efficiency in the use of the system. Finally, the Code recognises the dulling effect that revenue constraints can place on the incentive to improve the efficiency of the pipeline's operations. 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.

Key issues that often arise in the context of the reference tariffs and reference tariff policy include:

- the allocation of costs to services and the tariff structure adopted
- the manner in which tariffs can change throughout the access arrangement period, sometimes referred to as the 'form of price control'
- whether the access arrangement should include 'pass-through events' to reflect exogenous factors, and the nature of the pass-through provisions

- the nature of any policy designed to remove the value of unused or underused assets from the capital base (the redundant capital policy)
- arrangements for charging for unaccounted-for gas
- 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 are not subject to review at the conclusion of the access arrangement period (fixed principles).

9.1 Code requirements

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 comply with the reference tariff principles described in section 8 of the Code.

Section 8.1 of the Code states that a reference tariff and a reference tariff policy should be designed with a view to achieving the following objectives:

- 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
- replicating the outcome of a competitive market
- ensuring the safe and reliable operation of the pipeline
- not distorting investment decisions in pipeline transportation systems or in upstream and downstream industries
- ensuring efficiency in the level and structure of the reference tariff
- providing an incentive to the service provider to reduce costs and to develop the market for reference and other services.

A recent decision by the Supreme Court of Western Australia⁷ found that the factors set out in section 2.24 of the Code have application to sections 3.4 and 3.5 and, through them, should guide the regulator in the exercise of the discretions contemplated by section 8.1. The factors set out in section 2.24 are as follows:

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

9.2 ActewAGL proposal

9.2.1 Allocation of costs and tariff structure

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.

As noted in section 2, ActewAGL has identified the total cost of providing services as comprising the five building blocks shown in Table 9.1.

⁷ Re Michael ex parte Epic Energy (WA) Nominees Pty Ltd (2002)

Table 9.1 ActewAGL, proposed allocation of costs, 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 services	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 total forecast net present value of the cost of services being recovered over the access arrangement period, although forecast revenue and costs in any individual year will not necessarily match.

In terms of cost allocation, 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.

In terms of the tariff market, the pricing structure adopted by ActewAGL is the same as in the 2001 access arrangement—that is, 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 relatively complex, but remains unchanged from the 2001 access arrangement.

However, ActewAGL has changed the structure of the tariff blocks 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 those customers using around 5 GJ to 25 GJ per quarter by a relatively greater proportion than for other customers. For the majority of residential customers 5 GJ to 25 GJ is the typical quarterly usage range.

ActewAGL is proposing the following price changes:

- 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 9.2 (page 80).
- Revenue from the contract market will remain constant over the access arrangement period; however, because ActewAGL has forecast volumes to fall there will be annual real increases in tariffs of 1% to 1.5%.
- 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 around 0.3% 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) will not change in real terms.

The new tariffs proposed for 2004–05 will not take effect until 1 January 2005.

9.2.2 Form of price control

ActewAGL's access arrangement sets out proposed prices (in real 2004–05 terms) for each year of the access arrangement.

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. It provides relative certainty for users (subject to changes in the CPI and the impact of pass-through events) and simplicity of calculation.

Table 9.2 ActewAGL, proposed changes in tariffs, 2003–04 to 2004–05

Tariff	\$ 2003–04		% change
	2003–04	2004–05	
Contract charges			
Network unit charge (\$ per GJ per maximum daily quantity 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 1,000.5 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)	50.000	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

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 tariffs to change in relative terms throughout an access arrangement period in response to changes in the cost of providing services, as well as 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 issue of 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 a regulatory 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 five years of the 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 overperform in the early years of the control 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 Australian Competition and Consumer Commission and the Essential Services Commission of Victoria (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 any overperformance for a five-year period, regardless of the stage of the regulatory control 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

Independent Pricing and Regulatory Tribunal in NSW) have cast doubt on whether the benefits of such arrangements outweigh the costs.

9.1 Does the approach to establishing tariffs proposed by ActewAGL satisfy the requirements of section 8.1 of the Code?

9.2 Should ActewAGL be required to develop and implement across-period arrangements for the sharing of efficiency gains and losses?

9.2.3 Pass-through events

A pass-through event occurs when the effects 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.⁸

Pass-through events reduce the risk faced by the regulated business—thus, it is argued, reducing its 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 in which 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.

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.

⁸ The Code was recently amended to provide specific guidance on the manner in which pass-through events should be treated.

Section 6.10 of ActewAGL’s proposed access arrangement provides for five pass-through events:

1. *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 and has been designed to apply primarily where external events, such as changes in standards, require increased expenditure)
2. *change in tax event*—a change in tax or introduction or removal of a tax
3. *regulatory event*—an event which imposes a change in minimum standards substantially alters the way in which ActewAGL must provide services, a change in authorisation fee, or a change in ActewAGL’s obligations under the Code
4. *insurance event*—including where insurance becomes more costly, unavailable, or available only on less favourable terms
5. *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 only be varied 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.

9.3 Is it appropriate for the access arrangement to include pass-through events?

9.4 If so, what should those events cover? Are ActewAGL's proposed events reasonable?

9.5 Should a minimum 'materiality' threshold be established?

9.6 Is the proposed process for pass-through events reasonable?

9.2.4 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.

A redundant capital policy has the effect of ensuring that customers are not charged for assets that are not used. Threats to remove redundant assets may provide appropriate incentives for a regulated entity to undertake only efficient investment.

At the same time, where distributors bear the consequences of asset stranding, the regulator may be obliged to provide compensation for the expected cost of accepting this liability. Another issue is that many of the events that may result in a gas distributor's assets becoming unused at some future time are outside of the distributor's control, and are therefore not events which regulatory incentives can influence.

ActewAGL's 2001 access arrangement contains a redundant capital policy although, as noted earlier, ActewAGL has not identified any assets as redundant in the 2001 access arrangement period. However, ActewAGL has included a forecast of redundant capital of \$0.1 million per annum for each year of the next regulatory period as one of the 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.

9.7 Is it appropriate for the access arrangement to include a redundant capital policy?

9.8 If so, should the commission retain the ability to remove assets where they are likely to cease contributing to services, or where sales volumes are likely to fall?

9.9 Is it appropriate for the cost of service building blocks to include an amount for redundant capital?

9.2.5 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 are calculated on the assumption of a UAG rate of 0.7%. ActewAGL reimburses retailers for the difference between gas received at the receipt point and gas delivered at delivery points. ActewAGL thus has a financial incentive to operate the system efficiently and minimise UAG.

In its 2000 final decision the commission required ActewAGL to amend its UAG figure for the purposes of its access arrangement from the 2.5% proposed by ActewAGL to 0.7% for the access arrangement period.

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

9.10 Is the forecast cost associated with unaccounted-for gas appropriate?

9.11 Is a level of 0.7% for unaccounted-for gas appropriate?

9.2.6 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)

and/or

- a formal link between the annual change in tariffs and overall network service levels ('S factors').

GSLs already exist via the Consumer Protection Code where 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; where this does not occur, affected customers are entitled to receive a \$50 payment. The extension of these GSLs and/or the introduction of S factors 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.

ActewAGL has not proposed any new GSLs or S factors in its access arrangement revisions.

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 their introduction. 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 the commission has noted in Section 3, a compliance and performance reporting

framework already exists, and this may be sufficient to ensure that service levels are maintained at appropriate levels.

9.12 Is it appropriate for the access arrangement to include formal links between service standards and tariffs?

9.2.7 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:

- 4.9 ActewAGL may increase the capital base for the network for any part of the new facilities investment that satisfies section 8.16 of the National Gas Code.
- 4.10 ActewAGL may undertake new facilities investment that does not satisfy section 8.16 of the National Gas 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 National Gas Code.
- 4.11 The amount that does not satisfy the requirements of section 8.16 of the National Gas Code forms part of the Speculative Investment Fund (as contemplated by the National Gas 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 National Gas Code.

Section 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.

As an initial observation the commission believes that the sections drafted by ActewAGL are consistent with the Code. However, the relative benefits to users and the service provider of defining these sections as fixed principles

are not readily apparent. The commission also notes that ActewAGL has not proposed a fixed period for which the fixed principles will apply.

9.13 Is it appropriate for ActewAGL to include the fixed principles, as proposed?

10 Extensions/expansions policy

The Code requires an access arrangement to set out an extensions/expansions policy—a policy for determining whether an extension or an expansion to 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 with the extensions/expansions policy tend to revolve around:

- whether an extension or expansion should be covered or not
- if the extension or expansion is to be included as part of the existing system, how it should be priced.

10.1 Code requirements

Section 3.16 of the Code requires the extensions/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.

10.2 ActewAGL proposal

ActewAGL's proposed extensions/expansions policy is set out in section 7 of its 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 6 of this issues paper) 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, reference services to generally be offered at reference tariffs, although ActewAGL may charge users a surcharge or seek a capital contribution where permitted by the Code.

10.2.1 Coverage

In respect of the coverage issue, the proposed access arrangement contains two key changes from the 2001 access arrangement.

Under the 2001 access arrangement:

- all extensions and expansions are automatically included as part of the covered pipeline
- but
- a duplicate pipeline (a pipeline 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.

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. ActewAGL has deleted any reference to duplicate pipelines in the proposed access arrangement. ActewAGL has argued that the most appropriate way to deal with duplicate pipelines is to treat them like any

other pipeline—that is, they only enter the capital base if they pass the prudent investment test (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.

10.1 Is it reasonable for ActewAGL to have the flexibility to exclude certain extensions and expansions from being covered?

10.2 Should duplicate pipelines be treated as a special case for coverage, or can they be adequately dealt with by existing Code provisions?

10.2.2 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 test in section 8.16 of the Code.

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 does pass the test in section 8.16.

10.3 Does the proposed access arrangement adequately specify how extensions and expansions will affect reference tariffs?

11 Capacity management, trading and queuing policies

Under the Code, service providers are required to establish a number of 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. On the other hand, an inefficient and ‘illiquid’ market which leaves incumbents with monopoly power will discourage entrants and negatively impact upon efficiency.

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.

11.1 Capacity management policy

11.1.1 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.

There are four points of distinction between the two methods of managing capacity on a pipeline:

Table 11.1 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. This has not occurred in the ACT.

11.1.2 ActewAGL proposal

Consistent with the minister's position and the 2001 access arrangement, in section 10 of its access arrangement ActewAGL has proposed that the distribution system be a contract carriage pipeline.

11.2 Trading policy

11.2.1 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, among other things, 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)
- with the service provider's consent, in any other case.

Consent may be withheld only on reasonable commercial or technical grounds, and the trading policy may specify conditions under which consent will be granted and any conditions attached to that consent.

11.2.2 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 the 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.

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, compared with two days in the 2001 access arrangement.

No trades or requests for trades have occurred in the current access arrangement period.

11.1 Does the proposed trading policy sufficiently explain the rights of a user to trade its right to obtain a service with another person?

11.2 Would it be useful for the trading policy to provide details of what might be 'reasonable commercial and technical grounds'?

11.3 Are the timelines within which ActewAGL will respond to requests for trades reasonable?

11.3 Queuing policy

11.3.1 Code requirements

System constraints and hence the benefits and need for trading in a distribution system are generally fewer than in 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.⁹

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.

11.3.2 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, which generally provides that a queue will be formed where there is insufficient capacity to satisfy requests, and capacity will be made available to users on a ‘first-in, first-served’ basis. Priority is given to requests for reference services over requests for negotiated services.

However, the proposed policy is more detailed than the existing policy and incorporates a number of amendments, including:

⁹ Prior to the Fourth Amending Agreement coming into effect on 6 February 2003, a queuing policy was mandatory for all pipelines.

- 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.

No queues were formed during the current access arrangement period.

11.4 Is there sufficient detail in the proposed queuing policy to enable users and prospective users to understand how the queuing policy will operate?

11.5 Does the proposed queuing policy accommodate the legitimate business interests of the service provider, users and prospective users?

11.6 Is the queuing policy likely to generate efficient outcomes?

12 Other issues

12.1 Review and expiry of the access arrangement

12.1.1 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 should 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.

12.1.2 ActewAGL proposal

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

This provides for a 5.5-year access arrangement period and will give the commission 12 months to assess the revisions. It will ensure that the access arrangement period is based around the financial year rather than the calendar year, which is consistent with ActewAGL’s reporting timeframes.

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 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. Pass-through events generally eliminate some of the risk associated with external events that would otherwise be imposed on the regulated business. Rather than some of the pass-through events (for example, the proposed ‘unforeseen external event’) simply causing a change in tariffs, one option would be for the commission to require a full review of the access arrangement.

12.1 What is the appropriate length of the access arrangement period?

12.2 Given that the proposed access arrangement period is 5.5 years, should any mechanisms to address possible misforecasts be incorporated in the access arrangement? What might these be?

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.

Appendix Questions raised in issues paper

Section 3 – Services policy

- 3.1 Are the services proposed by ActewAGL consistent with users' needs?
- 3.2 Are they sufficiently well-defined?
- 3.3 Are there any other services that are likely to be sought by a significant part of the market?
- 3.4 Are the restrictions on the availability of reference services reasonable?
- 3.5 Is the fee for a request for service reasonable? Should ActewAGL be obliged to provide an estimate or cap on the cost of the service prior to a request being submitted?
- 3.6 Are the service standards proposed by ActewAGL consistent with users' needs and sufficiently well defined?
- 3.7 Should ActewAGL be required to ensure that service standards do not drop below existing levels?

Section 4 – Terms and conditions

- 4.1 Are the revisions to general terms and conditions proposed by ActewAGL appropriate?
- 4.2 Are the other general terms and conditions still relevant and appropriate?
- 4.3 Are the specific terms and conditions proposed by ActewAGL appropriate?
- 4.4 Are the revisions to the curtailment of supply policy proposed by ActewAGL appropriate?

- 4.5 Are the gas balancing arrangements proposed by ActewAGL appropriate?
- 4.6 Are the revisions to the gas quality specifications proposed by ActewAGL appropriate?
- 4.7 Are the provisions relating to establishment of receipt points proposed by ActewAGL appropriate?
- 4.8 Are the terms and conditions proposed by ActewAGL appropriate?
- 4.9 Are the terms sufficiently well specified that a reference tariff can credibly be defined for the services being offered?
- 4.10 Are the terms and conditions sufficiently well specified to minimise disputes over the terms and conditions of access?

Section 5 – Operating cost forecasts

- 5.1 Can trends in historical non-capital expenditure be used to forecast future expenditure?
- 5.2 Are the performance indicators provided by ActewAGL appropriate benchmarks for an efficient organisation?
- 5.3 Is the 1.5% efficiency improvement proposed by ActewAGL appropriate?
- 5.4 Is it reasonable to include the projected level of marketing expenditure in the forecasts?
- 5.5 Which areas are most likely to be susceptible to cost misallocation?
- 5.6 What benchmarks and methodologies would be applicable in assessing ActewAGL's allocation of joint costs?
- 5.7 What are the pitfalls in assessing the joint cost allocation of multi-utilities like ActewAGL?
- 5.8 Are there any issues arising from the ring-fencing guidelines or the extent to which ActewAGL may have operated in a manner which may breach those guidelines, which may be relevant to the

commission's assessment of the proposed revisions to the access arrangement?

Section 6 – Capital expenditure and the capital base

- 6.1 Does the current service level warrant the extent of capital expenditure for ActewAGL to stay in business?
- 6.2 Has the system capacity been adequately utilised to justify the additional growth in capital expenditure?
- 6.3 The 2009 capital expenditure indicates a significant increase in capital expenditure for growth capacity. Given the trend in more efficient energy utilisation, is this a reasonable assumption?

Section 7 – Demand forecasts

- 7.1 What are likely to be the key drivers of gas usage in the ActewAGL network?
- 7.2 Is it reasonable to forecast decreases in average consumption for new residential customers and existing business customers?
- 7.3 Is it reasonable to assume a continued warming trend in the gas consumption forecasts?

Section 8 – Cost of capital

- 8.1 Is it appropriate for the commission to use a pre-tax approach to the calculation of the WACC?
- 8.2 Should the commission use a statutory tax rate or an effective tax rate in the WACC?
- 8.3 What is an appropriate value of dividend imputation credits in the WACC?
- 8.4 What is the appropriate debt margin to adopt in the WACC?
- 8.5 What is the appropriate market risk premium to adopt in the WACC?

- 8.6 What are the appropriate beta values to adopt in the WACC?
- 8.7 What is the appropriate gearing ratio to adopt in the WACC?
- 8.8 Is it appropriate that reference tariffs for reference services reflect a return on working capital?

Section 9 – Reference tariffs and reference tariff policy

- 9.1 Does the approach to establishing tariffs proposed by ActewAGL satisfy the requirements of section 8.1 of the Code?
- 9.2 Should ActewAGL be required to develop and implement across-period arrangements for the sharing of efficiency gains and losses?
- 9.3 Is it appropriate for the access arrangement to include pass-through events?
- 9.4 If so, what should those events cover? Are ActewAGL’s proposed events reasonable?
- 9.5 Should a minimum ‘materiality’ threshold be established?
- 9.6 Is the proposed process for pass-through events reasonable?
- 9.7 Is it appropriate for the access arrangement to include a redundant capital policy?
- 9.8 If so, should the commission retain the ability to remove assets where they are likely to cease contributing to services, or where sales volumes are likely to fall?
- 9.9 Is it appropriate for the cost of service building blocks to include an amount for redundant capital?
- 9.10 Is the forecast cost associated with unaccounted-for gas appropriate?
- 9.11 Is a level of 0.7% for unaccounted-for gas appropriate?
- 9.12 Is it appropriate for the access arrangement to include formal links between service standards and tariffs?
- 9.13 Is it appropriate for ActewAGL to include the fixed principles, as proposed?

Section 10 – Extensions/expansions policy

- 10.1 Is it reasonable for ActewAGL to have the flexibility to exclude certain extensions and expansions from being covered?
- 10.2 Should duplicate pipelines be treated as a special case for coverage, or can they be adequately dealt with by existing Code provisions?
- 10.3 Does the proposed access arrangement adequately specify how extensions and expansions will affect reference tariffs?

Section 11 – Capacity management, trading and queuing policies

- 11.1 Does the proposed trading policy sufficiently explain the rights of a user to trade its right to obtain a service with another person?
- 11.2 Would it be useful for the trading policy to provide details of what might be ‘reasonable commercial and technical grounds’?
- 11.3 Are the timelines within which ActewAGL will respond to requests for trades reasonable?
- 11.4 Is there sufficient detail in the proposed queuing policy to enable users and prospective users to understand how the queuing policy will operate?
- 11.5 Does the proposed queuing policy accommodate the legitimate business interests of the service provider, users and prospective users?
- 11.6 Is the queuing policy likely to generate efficient outcomes?

Section 12 – Other issues

- 12.1 What is the appropriate length of the access arrangement period?
- 12.2 Given that the proposed access arrangement period is 5.5 years, should any mechanisms to address possible misforecasts be incorporated in the access arrangement? What might these be?

Glossary and abbreviations

ACCC	Australian Competition and Consumer Commission
ACQ	annual consumption quantity
ACT	Australian Capital Territory
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
CAPM	capital asset pricing model
COAG	Council of Australian Governments
Code	National Third Party Access Code for Natural Gas Pipeline Systems
commission	Independent Competition and Regulatory Commission
CPI	consumer price index as published by the Australian Bureau of Statistics
ESCV	Essential Services Commission of Victoria
GJ	gigajoule
GSL	guaranteed service level
HDD	heating degree days
ICRC Act	<i>Independent Competition and Regulatory Commission Act 1997</i>
IPART	Independent Pricing and Regulatory Tribunal (of NSW)
kPa	kilopascal
MCE	Ministerial Council on Energy
MDQ	maximum daily quantity
MHQ	maximum hourly quantity
MMA	McLennan Magasanik Associates
MRP	market risk premium
OBA	Operational Balancing Agreement
OTTER	Office of the Tasmanian Energy Regulator
QCA	Queensland Competition Authority
RAB	regulatory asset base
TJ	terajoule
UAG	unaccounted-for gas
WACC	weighted average cost of capital

Index

- abbreviations and glossary, 106
- access arrangements, iii, 1
 - proposed; *see* ActewAGL proposals
 - requirements; *see* Code requirements
 - review of, 2–3, 18, 99–100
- access regime
 - establishment under Code, 2
 - Productivity Commission review of, 19–21, 22
- ACT Planning and Land Authority, 26
- ACTEW Corporation, 9
- ACTEW/AGL Partnership Facilitation Bill 2000, 9
- ActewAGL
 - capital base, 50–55
 - capital expenditure, 12–13, 50–55
 - demand forecasts, 13–14, 57–60
 - forecast capital base, 51–55
 - joint venture arrangements, 9
 - opening capital base, 49–50
 - operating expenditure, 11–12, 39–45
 - performance against indicators, 40; *see also* ActewAGL proposals; forecasts
- ActewAGL Distribution, 9; *see also* ActewAGL entries
- ActewAGL proposals
 - capacity management policy, 18, 94
 - capital expenditure, 49–55
 - curtailment of services, 34–35
 - demand forecasts, 13–14, 57–60
 - expiry of access arrangements, 18, 99–100
 - extensions/expansions policy, 17, 90–91
 - gas balancing, 35–36
 - operating expenditure, 11–12, 39–43
 - overview of, 9–18
 - queuing policy, 18, 96–97
 - reference tariffs, 14–17, 77–88
 - revenue requirement, 15
 - review of access arrangements, 18, 99–100
 - services policy, 10, 23–28
 - tariffs, 14–17, 77–78
 - terms and conditions, 10–11, 30–37
 - trading policy, 18, 95
- Agility, 9, 10, 42
- AGL Gas Company (ACT) Limited, 9
- allocation of costs, 43–44, 77–79
- asset beta, 64, 71–72
- asset lives, 52
- Australian Competition and Consumer Commission, 22, 67–68, 81
- Australian Energy Market Commission, 22
- Australian Energy Regulator, 22
- background issues, 9–22
- beta, 64, 65, 71–72
- BIS Shrapnel, 58
- building blocks
 - approach to tariffs, 14–15
 - capital costs in, 47
 - methodology, 65–66
 - return of capital, 47
 - return on capital, 47
 - service costs, 77–78
- business tariff market forecasts, 59–60
- capacity management policy
 - ActewAGL proposal, 18, 94
 - Code requirements, 2, 93–94
- capital asset pricing model 64, 66, 69
- capital base, 47–48
 - ActewAGL proposal, 49–51
 - Code requirements, 51
 - forecast, 51–55; *see also* capital expenditure
- capital, cost of; *see* cost of capital; weighted cost of capital
- capital cost event, 83; *see also* pass-through events
- capital expenditure
 - ActewAGL proposal, 49–51
 - Code requirements, 49

determination of, 47–51
forecasts, 12–13, 53–55
questions relating to, 55; *see also*
capital base

change in tax event, 83; *see also*
pass-through events

Clayton Utz, 6

Code Registrar, 22

Code requirements, iii, 1, 2–3, 4–5
access arrangements, review of, 2,
99
capacity management policy, 2, 93–
94
capital base, 49, 51
capital expenditure, 49, 51
cost of capital, 66
demand forecasts, 57
expiry of access arrangements, 2–3,
99
extensions/expansions policy, 2, 89
operating expenditure, 39
queuing policy, 2, 96
services policy, 2, 23
terms and conditions, 2, 29
trading policy, 2, 94–95

commission
contact details, ii, iv
role and responsibilities, ii, 3–4
website, 9

conditions; *see* terms and conditions

consultancies, 56

consultation, public; *see* submissions

consumer price index (CPI), 50, 79

Consumer Protection Code, 26, 27–
28, 86–87

consumption forecasts
business, 59–60
contract market, 60
residential, 58–59; *see also* demand
forecasts

contract market, 60

corporate services costs, 42

cost allocation, 43–44, 77–79

cost of capital, 14
ActewAGL proposal, 66–74
calculation of, 63–66
Code requirements, 66
overview, 63
questions relating to, 68, 69, 70, 71,
73, 74; *see also* weighted cost of
capital

Council of Australian Governments,
21

curtailment of services, 34–35

customer numbers; *see* demand
forecasts

debt beta, 65, 71–72

debt margin, 69–70

demand forecasts, 42
ActewAGL proposal, 13–14, 57–60
Code requirements, 57
commission’s approach, 60–62
questions relating to, 62; *see also*
consumption forecasts

depreciation, regulatory, 48

dividend imputation credits, 69

Duke Energy, 35

Eastern Gas Pipeline, 10

Energy Consulting Group, 6

energy regulator, national, 21–22

Envestra, 40

equity beta, 64, 71–72

Essential Services of Victoria, 67–68,
81; *see also* interstate comparisons

events, pass-through, 17, 75, 82–84
expenditure; *see* capital expenditure;
operating expenditure

expiry of access arrangements
ActewAGL proposal, 18, 99–100
Code requirements, 2–3, 99

extensions/expansions policy
ActewAGL proposal, 17, 90–91
Code requirements, 2, 89
questions relating to, 91

external event, unforeseen, 83; *see
also* pass-through events

fees, request for services, 25; *see also*
reference tariffs

fixed principles, 87–88

forecasts
business tariff market, 59–60
capital base, 51–55
capital expenditure, 12–13, 53–55
consumption, 58–60
contract market, 60

demand, 13–14, 42, 57–62
 inflation, 52
 operating expenditure, 11–12, 39–45
 residential tariff market, 58–59
 revenue requirement, 15
 foreword, iii–iv
 formulae
 capital asset pricing model, 64
 Monkhouse, 65
 weighted average cost of capital, 63–64
 full retail contestability, 9, 18–19

 gamma, 69
 gas access regime *see* access regime
 gas balancing, 35–36
 Gas Pipeline Access (ACT) Law, 1
Gas Pipeline Access Act 1998, 1
 gas quality specifications, 36
 Gas Supply (Network Safety Management) Regulation, (NSW), 36
 gas technical regulator, 26
 gearing ratio, 73–74
 general terms and conditions, 30–33;
 see also terms and conditions;
 specific terms and conditions
 guaranteed service levels, 86–87

 Hoskinstown metering station, 42

 imputation credits, dividend, 69
 incentives, price, 81–82
Independent Competition and Regulatory Commission Act 1997, 1, 3
 inflation forecasts, 52
 insurance event, 83; *see also* pass-through events
 interstate comparisons
 beta, 72
 cost of capital decisions, 66–68
 debt margin, 70
 gas quality specifications, 36
 market risk premium, 71
 operating expenditure, 40
 price changes, 81
 price incentives, 81–82

 issues paper, iv, 4, 6–7

 joint costs, allocation of, 43–44
 joint venture arrangements, 9

 legislative framework, 1–4

 market forecasts, 58–60
 market risk premium, 70–71
 McLennan Magasanik Associates, 6
 meter data service, 10, 24
 Ministerial Council on Energy, 21–22
 Monkhouse formula, 65
 Moomba Pipeline, 68

 National Competition Council, 21
 National Electricity Code, 22
 National Electricity Law, 22
 national energy regulator, proposals for, 21–22
 National Gas Code, 22, 87
 National Gas Pipelines Advisory Committee, 22
 National Third Party Code for Natural Gas Pipeline Systems; *see* Code
 negotiated service, 10, 23
 network standards review, 26
 New South Wales, gas quality requirements, 36; *see also* interstate comparisons
 newspaper advertisements, 4, 5
 non-capital costs; *see* operating expenditure
 non-reference services, 10, 23, 24–25
 non-tariff reference services, 23

 operating expenditure
 ActewAGL proposal, 11–12, 39–43
 allocation of, 78
 Code requirements on 39
 forecasts, 11–12, 39–45
 questions relating to, 43, 44, 45
 operating pressures, standard, 54
 Operational Balancing Agreement, 35–36

 pass-through events, 17, 75, 82–84
 performance indicators, 40

pipelines, covered by Code, 2, 90
 policy

- capacity management, 2, 18, 93–94
- curtailment of services, 34–35
- extensions/expansions, 2, 17, 89–91
- queuing, 2, 18, 96–97
- redundant capital, 84–85
- reference tariff, 14–17, 75–88
- trading, 2, 18, 94–95
- services, 2, 10, 23–28

 post-tax approach to cost of capital, 64–65, 67–68
 pre-tax approach to cost of capital, 64–65, 67–68
 price control, 79–82; *see also* reference tariffs
 price incentives, 81–82
 prices; *see* reference tariffs
 PricewaterhouseCoopers, 5
 pricing structure, 77–79; *see also* reference tariffs
 Productivity Commission, review of gas access regime, 19–21
 public submissions; *see* submissions

 Queanbeyan City Council, 58
 Queensland, 40; *see also* interstate comparisons
 questions for consideration, 101–105
 capital expenditure, 55
 cost of capital, 68, 69, 70, 71, 73, 74
 expiry of access arrangement, 100
 market demand, 62
 operating expenditure, 43, 44, 45
 queuing policy, 97
 reference tariffs, 82, 83, 84, 85, 86, 87, 88
 service proposals, 24, 25, 26
 terms and conditions, 33, 34, 35, 36, 37
 trading policy, 95
 weighted cost of capital, 68, 69, 70, 71, 73, 74
 queuing policy

- ActewAGL proposal, 18, 96–97
- Code requirements, 2, 96
- questions relating to, 97

 receipt points, establishment of, 37
 redundant capital, 48, 84–85
 reference services, 2, 10, 23, 24–25; *see also* services policy
 reference tariffs

- ActewAGL proposal, 14–17, 77–88
- application to pipeline extensions, 91
- building block approach to, 14–15
- Code requirement, 2, 75–77
- links with service standards, 86–87
- questions relating to, 82, 84, 85, 86, 87, 88

 regulatory asset base; *see* capital base
 regulatory depreciation, 48; *see also* capital base
 regulatory event, 83; *see also* pass-through events
 residential tariff market forecasts, 58–59
 retail gas prices, 18–19; *see also* reference tariffs
 return of capital building block, 47; *see also* capital base
 return on capital building block, 47; *see also* capital base
 revenue requirement, 15
 review of access arrangements

- ActewAGL proposal, 18, 99–100
- Code requirements, 2–3, 99

 review process, 4–6
 reviews

- access regime, 19–21
- energy markets, 21–22
- gas quality regulations, NSW, 36
- network standards, 26
- Productivity Commission, 19–21, 22

 ring fencing, 44–45
 ‘Ring Fencing Guidelines for Gas and Electricity Network Service Operators in the ACT’, 45
 risk premium, market, 70–71

 S factors, 86–87
 service standards, 25–26, 86–87
 services policy,

- ActewAGL proposal, 10, 23–28

Code requirements, 2, 23
 questions relating to, 24, 25, 26
 service requests, fees for, 25
 smoothed tariffs, 78
 specific terms and conditions, 33–34;
 see also general terms and
 conditions; terms and conditions;
 Speculative Investment Fund, 87
 stakeholder submissions, *see*
 submissions
 standard operating pressures, 54
 statutory framework, 1–4
 submissions, call for, iv, 4, 7
 on capital expenditure, 55
 on cost of capital, 68, 69, 70, 71,
 73, 74
 on market demand, 62
 on operating expenditure, 43, 44, 45
 on queuing policy, 97
 on reference tariffs, 82, 83, 84, 85,
 86, 87, 88
 on services, 24, 25, 26
 on terms and conditions, 33, 34, 35,
 36, 37
 on trading policy, 95
 on weighted cost of capital, 68, 69,
 70, 71, 73, 74
 Supreme Court of Western Australia
 decision on Code, 77

 tariff basket approach, 81
 tariff structure, 77–79
 tariffs; *see* reference tariffs
 tax event, 83; *see also* pass-through
 events
 tax rate, 67–68
 technical regulator, gas, 26
 terms and conditions
 ActewAGL proposal, 10–11, 30–37
 Code requirements, 2, 29
 general, 30–33
 matters considered, 29
 questions relating to, 33, 34, 35, 36,
 37
 specific, 33–34
 timetable for review, iii, 5
Trade Practices Act, 2
 trading policy
 ActewAGL proposal, 18, 95

 Code requirements, 2, 94–95
 questions relating to, 95

 unaccounted-for gas, 85–86
 unforeseen external event, 83; *see*
 also pass-through events
Utilities Act 2000, 1, 3

 Victoria, 40; *see also* interstate
 comparisons

 weather adjustments, 60
 website
 commission’s, 10
 weighted average cost of capital
 calculation of, 63–66
 formulae, 63–64
 pre- and post-tax approach, 65–66,
 67–68
 questions relating to, 68, 69, 70, 71,
 73, 74; *see also* cost of capital
 working capital, 74

 X factor, 79, 81