Draft decision

ActewAGL

Access arrangement proposal for the ACT, Queanbeyan and Palerang gas distribution network

1 July 2010 – 30 June 2015

November 2009

AUSTRALIAN ENERGY REGULATOR

Request for submissions

This document sets out the Australian Energy Regulator's (AER) draft decision for ActewAGL's access arrangement revision proposal for the period 1 July 2010 to 30 June 2015.

The draft decision requires ActewAGL to revise its access arrangement proposal. ActewAGL must submit a revised access arrangement revision proposal responding to the AER's draft decision by 6 January 2010.

The AER will hold a public forum on its draft decision on 17 November 2009. At the forum the AER will outline the reasons for its draft decision and provide an opportunity for interested parties to provide comment or questions. Forum details are available at www.aer.gov.au

Interested parties are invited to make written submissions on issues regarding the draft decision and the consultants' reports to the AER by 12 February 2010. The AER will consider all information it receives in the access arrangement review process, including submissions on the draft decision, in accordance with its access arrangement guideline (AAG) and the ACCC–AER information policy: the collection, use and disclosure of information (ACCC-AER Information Policy)[1]. These documents are available at www.aer.gov.au.

Submissions can be sent electronically to nswactgas@aer.gov.au.

Alternatively, submissions can be mailed to:

Mike Buckley
General Manager
Network Regulation North Branch
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601.

The AER prefers that all submissions be made public to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information are requested to submit this information as outlined in the access arrangement guideline.

All non-confidential submissions will be placed on the AER's website.

Copies of ActewAGL's access arrangement proposal, consultancy reports and submissions from interested parties are available on the AER's website.

Inquiries about this draft decision or how to make submissions can be made by email to nswactgas@aer.gov.au or by phone on (02) 6243 1233.

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[1] ACCC and AER, *ACCC–AER information policy: the collection, use and disclosure of information,* 23 October 2008.

Contents

Draft decision

The AER does not propose to approve ActewAGL's access arrangement proposal as it is not satisfied that it meets the requirements specified in the NGR.[2] The draft decision sets out the detailed reasons for this decision.[3]

For the AER to approve the access arrangement proposal this decision also outlines the amendments (or nature of amendments)[4] required to be made to the access arrangement proposal[5] or access arrangement information.[6]

Provisions of the access arrangement proposal that do not require amendment are consistent with the national gas objective.[7]

2 NGR, r. 41 and r. 100.

3 NGR, r. 59(4).

4 NGR, r. 43(3) and r. 59(2).

5 ActewAGL, *Access arrangement for the ACT, Queanbeyan and Palerang gas distribution network*, June 2009 (access arrangement proposal).

6 ActewAGL, *Access arrangement information for the ACT, Queanbeyan and Palerang gas distribution network*, June 2009 (access arrangement information).

7 NGR, r. 100.

Amendments

Before the proposed access arrangement proposal can be accepted, ActewAGL must make the following amendments[8]:

[8] All references to clauses, sections or chapters refer to those in the access arrangement proposal and access arrangement information unless indicated otherwise.

Pipeline Services

Amendment 2.1: amend section 2.5 in the access arrangement proposal to include the following:

> There is an Ancillary Service available – this is a service for the provision of: (i) requests for services; (ii) special meter reads; (iii) reconnection fees; and (iv) disconnection fees.

Amendment 2.2: amend paragraph three of chapter 11.1 in the access arrangement information to include the following:

> The reference services, as set out in part 2 in the access arrangement proposal, are as follows:
>
> Ancillary Service – this is a service for the provision of: (i) requests for services; (ii) special meter reads; (iii) reconnection fees; and (iv) disconnection fees.

Amendment 2.3: amend the access arrangement information to reflect **amendments 2.1 and 2.2.**

Amendment 2.4: amend attachment 1 in the access arrangement proposal to delete the definition of reference service and replace it with the following:

> **Reference Service** means the:
>
> Ancillary Service;
>
> Tariff Service;
>
> Capacity Reservation Service;
>
> Managed Capacity Service;
>
> Throughput Service;
>
> Multiple Delivery Point Service; or
>
> Meter Data Service.

Amendment 2.5: amend attachment 1 in the access arrangement proposal to include a definition for ancillary services.

Amendment 2.6: amend the access arrangement information to reflect **amendments 2.4 and 2.5.**

Amendment 2.7: amend clauses 1.16 in attachment 3A, 1.16 in attachment 3B, 1.15 in attachment 3C and clause 1.11 in attachment 3E in the access arrangement proposal to include the following:

> Users shall be free to acquire such services from parties unrelated to ActewAGL on the date that meter reading or on-site data and communications becomes contestable.

Amendment 2.8: amend clause 1.5 in attachment 3F in the access arrangement proposal to include the following:

> At this time all Users shall be free to acquire such services from third parties unrelated to ActewAGL.

Capital Base

Amendment 3.1: amend the access arrangement information to:

- delete the row labelled 'Regulatory capitalisation costs' under the heading 'Actual and forecast capital expenditure' in Table 6.2
- delete the row labelled 'Regulatory Costs' in Table 6.6
- delete the row labelled 'Regulatory costs (capitalised)' in Table 6.7

and replace these rows with the following:

Table 3.7: Derivation of the opening capital base at 1 July 2010 ($m, real, 2009–10)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Total
Regulatory costs	2.06	0.00	0.00	0.00	0.00	0.00	2.06

Amendment 3.2: delete Table 7.3 in the access arrangement information and replace it with the following:

Table 3.8: Derivation of teh opening capital base at 1 July 2010 ($m, nomianl)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Opening capital base	225.9	233.8	239.3	250.4	255.6	266.1	277.1
Capital expenditure	9.8	7.2	11.1	7.6	7.9	15.0	
Depreciation	7.3	8.0	8.6	8.4	8.7	9.0	
Adjustment for inflation	5.4	6.3	8.7	5.9	11.3	5.0	
Closing capital base	233.8	239.3	250.4	255.6	266.1	277.1	
Adjustment						0.01	

Amendment 3.3: delete Table 6.10 in the access arrangement information and replace it with the following:

Table 3.9: Real escalation factors for ActewAGL (%)

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
General labour – ACT	1.1	0.2	0.4	1.0	1.5	1.6
EGW labour – NSW	2.1	0.1	0.5	0.9	1.5	1.7
EGW labour – ACT	3.1	0.9	0.5	1.1	1.5	1.4

Aluminium	3.1	24.2	7.0	2.6	1.3	0.9
Steel	–21.1	31.9	11.5	0.8	–0.7	–1.1
Polyethylene	0.0	0.0	0.0	0.0	0.0	0.0

Amendment 3.4: delete Table 6.11 in the access arrangement information and replace it with the following:

Table 3.10: Effect of emissions trading scheme on escalation factors (%)

	2009	2010	2011	2012	2013	2014
Aluminium	0.0	0.0	0.0	0.0	0.0	0.0
Steel	0.0	0.0	0.0	0.0	0.0	0.0
Polyethylene	0.0	0.0	0.0	0.0	0.0	0.0
Concrete	0.0	0.0	0.0	0.0	0.0	0.0

Amendment 3.5: amend the access arrangement information to:

- delete Table 6.8 and replace it with the following:

Table 3.11: Forecast capital expenditure 2010–15 by justification ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
Distribution system						
Market expansion	8.6	6.9	6.8	5.9	5.5	33.7
Capacity development	5.4	15.1	0.6	0.3	2.2	23.5
Stay in business	11.2	2.0	3.3	3.7	2.8	23.0
Non system						
Non-system (IT)	0.3	0.3	0.4	0.1	0.0	1.1
Total capital expenditure	25.5	24.3	11.1	10.0	10.5	81.4

- delete Table 6.9 and replace it with the following:

Table 3.12: Forecast capital expenditure 2010–15 by asset type ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
TRS & DRS –Valves	12.6	3.9	0.4	0.9	0.4	18.2

and regulators						
HP mains	0.9	11.2	0.0	0.0	1.3	13.4
MP mains	4.8	3.5	3.5	2.5	2.8	17.0
Meters - (tariff)	3.4	2.5	3.9	3.7	3.3	16.7
Meters - contract	0.6	0.2	0.2	0.3	0.2	1.4
MP services	2.9	2.8	2.7	2.5	2.5	13.5
HP services	0.0	0.0	0.0	0.0	0.0	0.0
IT system	0.3	0.3	0.4	0.1	0.0	1.1
Total capital expenditure	25.4	24.3	11.0	9.9	10.4	81.4

Amendment 3.6: delete Table 7.6 and Table 10.2 in the access arrangement information and replace them with the following:

Table 3.13: Economic depreciation 2010–11 to 2014–15 ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15
Straight line depreciation	9.2	10.9	12.0	12.8	13.6
Inflation adjustment	-6.8	-7.4	-8.0	-8.2	-8.3
Economic depreciation	2.41	3.48	4.04	4.66	5.25

Amendment 3.7: delete Table 7.7 and Table 10.3 in the access arrangement information and replace them with the following:

Table 3.14: Proected capital base 2010–11 to 2014 ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15
Opening capital base	277.1	294.5	309.3	309.6	308.3
Forecast capital expenditure	26.4	25.2	11.4	10.3	10.8
Forecast depreciation	9.0	10.4	11.2	11.6	12.0
Closing capital base	294.5	309.3	309.6	308.3	307.0

Amendment 3.8: delete clauses 4.15 and 4.16 in the access arrangement proposal and clauses 7.2.7, 7.2.7.1 and 7.2.7.2 in the access arrangement information.

Amendment 3.9: delete clause 4.17 in the access arrangement proposal and replace it with the following:

Reference tariffs have been determined on the basis of:

(a) the capital base (excluding any capital contributions made under rule 82); and

(b) new capital expenditure that is forecast to occur within the Access Arrangement Period and is reasonably expected to satisfy the requirements of rule 79 of the National Gas Rules ("Forecast Capital")

Amendment 3.10: delete clause 4.19 in the access arrangement proposal and replace it with the following:

ActewAGL may undertake new capital expenditure that does not satisfy rule 79 of the National Gas Rules. Where ActewAGL does so, ActewAGL may increase the capital base for any part of that new capital expenditure that does satisfy rule 79 of the National Gas Rules. ActewAGL may also increase the capital base for capital contributions under rules 82(2) and (3) of the National Gas Rules.

Amendment 3.11: delete clause 4.20 in the access arrangement and replace it with the following:

The amount that does not satisfy the requirements of rule 79 of the National Gas Rules, to the extent that it is not to be recovered through a surcharge on users or a capital contribution, forms part of the Speculative Capital Expenditure Account (as contemplated by rule 84 of the National Gas Rules). ActewAGL may increase the Capital Base in accordance with rule 84(3) of the National Gas Rules if a part of the Speculative Capital Expenditure Account subsequently satisfies the requirements of rule 79 of the National Gas Rules.

Amendment 3.12: delete clause 4.21 in the access arrangement proposal and replace it with the following:

Any increase in the Capital Base under clauses 4.18 to 4.20, or in accordance with rule 80 of the National Gas Rules, may only take effect from the Revisions Commencement Date, or in accordance with the operation of the Cost Pass-Through mechanism.

Amendment 3.13: delete clause 4.18 in the access arrangement proposal and replace it with the following:

ActewAGL may increase the Capital Base for the Network for any part of the new capital expenditure that satisfies rule 79 of the National Gas Rules.

Rate of Return

Amendment 5.1: delete clause 4.3 in the access arrangement proposal and replace it with the following:

> Price paths were determined (using a nominal vanilla weighted average cost of capital) that result in a return on capital over the period of the access arrangement as detailed in the access arrangement information.

Amendment 5.2: delete the rate of return in chapter 8 in the access arrangement information and replace it with the following:

Table 5.3: WACC parameters

Parameter	AER's draft decision
Nominal risk-free rate (%)	5.49[a]
Inflation (%)	2.45[b]
Real risk-free rate (%)	2.97[a]
Equity beta	0.8
Market risk premium (%)	6.5
Debt risk premium (%)	4.28[a]
Debt share of total value (gearing) (%)	60
Nominal return on equity (%)	10.69[a]
Nominal return on debt (%)	9.77[a]
Nominal vanilla WACC (%)	10.14[a]
Gamma (utilisation of imputation credits)	0.65

a: These figures are updated with data current to 23 October 2009, but should be considered indicative only. They will be updated for the final decision (in accordance with the averaging period set out in confidential appendix A).

b: This figure will be updated for the final decision using the latest data from the RBA statement of monetary policy.

Taxation

Amendment 6.1: delete the taxation standard life for high pressure services in Table 10.6 in the access arrangement information and replace it with 50 years.

Incentive Mechanism

Amendment 7.1: delete paragraphs 4.6–4.10 in the access arrangement proposal.

Amendment 7.2: amend paragraph 4.11 in the access arrangement proposal to state that carryover amounts for the first year of the access arrangement period will be estimated using the following equation:

$E_1 = (F_1 – A_1)$

where:

E_1 is the efficiency gain in one year of the first access arrangement period.

F_1 is the forecast operating expenditure in year one of the first access arrangement period.

A_1 is the actual operating expenditure in year one of the first access arrangement period.

Amendment 7.3: delete and replace paragraph 4.11 of the access arrangement proposal to state that carryover amounts in the last year of the access arrangement period are to be estimated using the following equation:

$A_5^* = F_5 – (F_4 – A_4)$

where:

A_5^* is the estimate of operating expenditure for the final year of the access arrangement period.

F_5 is forecast operating expenditure for the final year of the access arrangement period.

F_4 is the forecast operating expenditure for the penultimate year of the access arrangement period.

A_4 is the actual operating expenditure for the penultimate year of the access arrangement period.

Amendment 7.4: delete and replace paragraph 4.11 in the access arrangement proposal to state that carryover amounts in the second, third and fourth years of the access arrangement period are to be estimated using the following equation:

$E_i = (F_i – A_i) – (F_{i–1} – A_{i–1})$

where:

E_i is the efficiency gain in year i of the access arrangement period.

F_i is the forecast operating expenditure in year i of the access arrangement period.

A_i is the actual operating expenditure in year i of the access arrangement period.

Amendment 7.5: delete and replace paragraph 4.11 in the access arrangement proposal to state that the carryover amount for the first year of the access arrangement period commencing 1 July 2015 is to be estimated using the following equation:

$E_6 = (F_6 – A_6) – (F_5 – A_5) + (F_4 – A_4)$

where:

E_6 is the efficiency gain in the first year of the following access arrangement period.

F_6 is forecast operating expenditure for the first year of the following access arrangement period.

A_6 is the actual operating expenditure for the first year of the following access arrangement period.

F_5 is forecast operating expenditure for the final year of the first access arrangement period.

A_5 is the actual operating expenditure for the final year of the first access arrangement period.

F_4 is the forecast operating expenditure for the fourth year of the first access arrangement period.

A_4 is the actual operating expenditure for the penultimate year of the first access arrangement period.

Amendment 7.6: amend the access arrangement proposal to include a statement after paragraph 4.13 that, if ActewAGL changes its approach to classifying costs as either capital expenditure or operating expenditure during the access arrangement period then, ActewAGL must adjust the forecast operating expenditure so that the forecast operating expenditure is consistent with the changes that reclassify operating expenditure to capital expenditure.

Amendment 7.7: amend the access arrangement proposal to include a statement after paragraph 4.13 that, if there is a change in ActewAGL's approach to classifying costs as either capital expenditure or operating expenditure ActewAGL must provide a detailed description of the change and a calculation of its impact on forecast and actual operating expenditure as part of its access arrangement submission relevant to the access arrangement period for which it is seeking a carryover amount.

Fixed Principles

Amendment 8.1: delete references to clauses 4.8 and 4.9 from clause 4.27(a) in the access arrangement proposal.

Amendment 8.2: delete clause 4.27(c) in the access arrangement proposal.

Operating Expenditure

Amendment 9.1: amend the access arrangement information to:

- delete Table 9.25 and replace it with the following table
- delete Table 9.11 and replace it with the following table (excluding debt raising and self insurance costs).

Table 9.8: ActewAGL's forecast operating expenditure ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
Controllable costs						
Operating and maintenance	9.3	11.0	11.1	9.8	10.0	51.2
Corporate overheads	3.2	3.2	3.2	3.3	3.3	16.2
Non-system asset charge	0.5	0.5	0.5	0.5	0.5	2.6
Marketing	1.3	1.3	1.3	1.3	1.3	6.7
Other controllable costs	0.2	0.2	0.2	1.0	0.8	2.6
Sub total	14.6	16.2	16.4	16.0	16.1	79.3
Non-controllable costs						
Government levies	0.7	0.7	0.7	0.7	0.7	3.3
UNFT	3.4	3.5	3.5	3.6	3.6	17.5
Contestability costs	0.6	0.6	0.6	0.6	0.6	2.8
UAG	0.6	0.6	0.6	0.6	0.6	3.1
Other costs	0.3	0.3	0.3	0.3	0.3	1.3
Debt raising costs	0.2	0.2	0.2	0.2	0.2	0.9
Self insurance costs	0.0	0.0	0.0	0.0	0.0	0.0
Sub total	5.7	5.7	5.8	5.8	5.9	28.9
Total operating expenditure	**20.2**	**22.0**	**22.2**	**21.8**	**22.0**	**108.2**

Amendment 9.2: make any and all consequential amendments necessary to take account of and reflect amendment 9.1 including updating nominal values in Table 10.5 in the access arrangement information.

Amendment 9.3: amend the access arrangement proposal to include a new section 4.26 stating the following:

> Statement of costs
>
> For each 12 month period ending on 30 June during the Access Arrangement Period, ActewAGL must maintain records for:
>
> (a) JAM fees—any fees payable by ActewAGL to Jemena Asset Management Pty Ltd (JAM) in relation to field and asset management services provided under their distribution asset management services agreement (or any other replacement asset management services agreement);
>
> (b) ActewAGL controllable costs—costs which can be controlled or varied by ActewAGL. For example, without limitation, direct materials or direct labour costs can be varied by management through making different managerial decisions; and
>
> (c) ActewAGL non-controllable costs—costs that ActewAGL cannot control or vary. For example, without limitation, government levies and taxes.
>
> An indicative breakdown of these fees and costs and the information to be maintained for each item is set out in Attachment 9. ActewAGL must provide this information for the fees and costs to the Relevant Regulator as part of its proposed revisions to this Access Arrangement under clause 1.16.

Amendment 9.4: amend the access arrangement proposal to include the new attachment 9 set out in appendix D of the draft decision.

Total Revenue

Amendment 10.1: delete Table 10.1 in the access arrangement information and replace it with the following Table 10.3 and make any and all consequential amendments to Table 10.4 of the access arrangement information.

Table 10.2: Revenue requirement for ActewAGL's ACT, Queanbeyan and Palerang gas distribution network 2010–11 to 2014–15 ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15
Return on capital	28.1	30.6	32.9	33.8	34.4
Depreciation	2.4	3.5	4.0	4.7	5.3
Operating and maintenance	20.7	23.1	23.9	24.1	24.8
Corporate income tax	0.8	1.0	1.1	1.1	1.2
Incentive mechanism payments (decrements)	na	na	na	na	na
Total	52.1	58.1	61.9	63.6	65.7

na: Not applicable.

Amendment 10.2: delete Table 10.12 in the access arrangement information and replace it with the following:

Table 10.4: Calculation of revenue allowance the reference tariff ($m, nominal unless otherwise stated)

	2010–11	2011–12	2012–13	2013–14	2014–15
Regulatory depreciation	2.4	3.5	4.0	4.7	5.3
Return on capital	28.1	30.6	32.9	33.8	34.4
Tax allowance	0.8	1.0	1.1	1.1	1.2
Operating expenditure	20.7	23.1	23.9	24.1	24.8
Incentive mechanism payments (decrements)	na	na	na	na	na
Unsmoothed revenue requirement	52.1	58.1	61.9	63.6	65.7
Energy forecasts (TJ)	6545.0	6525.2	6565.5	6641.6	6736.0
Revenue yield (tariff/TJ)	7557.9	8144.3	8776.2	9457.2	10191.0
Smoothed revenue requirement	51.4	55.2	59.9	65.2	71.2
of which tariff revenue	49.5	53.1	57.6	62.8	68.6

of which contract revenue	2.0	2.1	2.2	2.4	2.6
X factor tariff revenue (%)	–5.2	–5.2	–5.2	–5.2	–5.2

Amendment 10.3: amend the access arrangement proposal to:

- delete the word 'section' in the first sentence of section 4.2 and replace it with 'rule'.
- delete from section 4.2 the following:

> In accordance with section 76 of the National Gas Rules, total revenue is the cost of providing all Services, and is calculated as:
>
> (a) a return on the Capital Base;
>
> (b) depreciation of the Capital Base;
>
> (c) if applicable, the estimate cost of corporate income tax for the year;
>
> (d) increments or decrements for the year resulting from the operation of an incentive mechanism to encourage gains in efficiency; and,
>
> (e) a forecast of operating expenditure for the year.

Reference Tariffs

Amendment 12.1: delete clauses 4.1 and 4.4 in the access arrangement proposal and replace them with the following:

> 4.1 Reference tariffs have been determined in accordance with rule 94 of the National Gas Rules and varied using a tariff variation mechanism that is consistent with rule 92(2) of the National Gas Rules.
>
> 4.4 The expected revenue for each market segment is determined on the basis of rule 94 of the National Gas Rules.

Tariff Variation Mechanism

Amendment 13.1: amend the access arrangement proposal to:

- delete section 1.40 in attachment 3A and section 1.20 in attachment 3B and replace them with the following:

> The charge for MDQ is the Network Unit Charge for Capacity multiplied by the MDQ, where the Network Unit Charge for Capacity expressed in real exclusive GST 2010–2011 dollars ($/GJ/MDQ per annum) is:

Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 30 June 2015
248.56	260.45	272.90	285.96	299.62

- delete section 1.44 in attachment 3A and section 1.24 in attachment 3B and replace them with the following:

  The annual quantity block structure and relevant capped rate in real 2010–2011 dollars are:

Annual Quantity Block Structure	Relevant Capped Rate $/GJ Equivalent (exclusive GST 2010–2011 dollars)
First 20 TJ p.a.	3.68
Next 30 TJ p.a.	3.21
All Additional	2.69

- delete the tables in section 1.48 in attachment 3A, section 1.28 in attachment 3B and section 1.19 in attachment 3C and replace them with the following:

Meter Set Type Typical/Alternative Meter/Provision of Basic Metering Equipment Charge in $ per annum expressed in real exclusive GST 2010–2011 dollars	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 20 June 2012	Year Ending 30 June 2015
Single Run & Bypass					
Toyo MT5, Email 602, Email 610	48	48	48	48	48
Toyo MT10, Email 1010, Email 750	97	97	97	97	97
AL-425	726	726	726	726	726
AL-1000, AL-1400, Romet RM30	1520	1520	1520	1520	1520
AL-2300, Romet Rm55, Romet RM85, Roots 3M, Instomet G65	2109	2109	2109	2109	2109
Romet Rm140, AL-5000, roots 5M, Instromet G100	2534	2534	2534	2534	2534

Roots 7m, Rockwell TPL9, Instromet G160	3892	3892	3892	3892	3892
Roots 16M, Roots 11M, Instromet G250	4652	4652	4652	4652	4652
Singer 4GT, Rockwell AT-18, Instromet G400	5527	5527	5527	5527	5527
Singer 6GT, Rockwell AT-30	7957	7957	7957	7957	7957
Rockwell AT-60	9380	9380	9380	9380	9380
Single Run & Shunt or Double Run (different Meters) – requiring special charges					
Rockwell AT-30 + AL 1400	9477	9477	9477	9477	9477

- delete the tables in section 1.56 in attachment 3A, section 1.30 in attachment 3B, section 1.21 in attachment 3C and section 1.19 in attachment 3E and replace them with the following:

Ancillary Services Charges in real exclusive GST 2010–2011 dollars	
Request for service	$42.82 plus $42.82 per hour after the first hour
Special meter read	39.91
Reconnection fee	75.39
Disconnection fee	102.02

- delete section 1.18 in attachment 3C and replace it with the following:

The Throughput Charge expressed in exclusive GST real 2010–2011 dollars ($/GJ/throughput) is:

Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 30 June 2015
3.64	3.82	4.00	4.19	4.39

- delete section 1.14 in attachment 3E and replace it with the following:

The Fixed Charges for the Tariff Service per annual in real GST exclusive 2010–11 dollars are:

Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 30 June 2015
41.36	41.36	41.36	41.36	41.36

- delete section 1.15 in attachment 3E and replace it with the following :

The Throughput Charge for the Tariff Service per annum in GST exclusive real 2010–11 dollars are:

Throughput Charge for Tariff Service ($/GJ) in real GST exclusive 2010–2011 dollars

Block Size (GJ per Mth)	Block Size (GJ Per Qtr)	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 30 June 2015
First 1.25	First 3.75	7.69	8.07	8.48	8.90	9.34
Next 82.25	Next 246.75	6.09	6.39	6.71	7.04	7.39
Next 333.5	Next 1000.5	5.56	5.83	6.12	6.42	6.74
All additional	All additional	3.91	4.11	4.31	4.52	4.75

Provision of Basic Metering Equipment Charge in real GST exclusive 2010–2011 dollars

Meter Provision Charges	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 20 June 2015
For meters with Capacity less than or equal to 6m3/hr ($ p.a.)	25.62	25.62	25.62	25.62	25.62
For meters with a Capacity of greater than 6m3/hr ($/GJ)	0.21	0.21	0.21	0.21	0.21

- delete section 1.17 in attachment 3E and replace it with the following:

For meters with a capacity greater than $6m^3$/hr there is a minimum payable each period. This minimum in real 2010–11 dollars is $2.64 per Monthly billing period and $7.97 per quarter billing period.

- delete the Table in section 1.20 in attachment 3F and replace it with the following:

Provision of On-Site Data and Communication Equipment Charge ($ p.a.) in real GST exclusive 2010–2011 dollars

	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 20 June 2015
Charge per Delivery Station (includes the first 2 meters at a Delivery Station)	1541	1541	1541	1541	1541
Charge for each additional 1 or 2 meters at a Delivery Station	366	366	366	366	366

- delete the tables in section 1.21 in attachment 3F and replace them with the following:

Provision of Meter Reading Charge for Tariff Delivery Points ($ p.a.) in real GST exclusive 2010–2011 dollars

Meter Reading Cycle	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 20 June 2015
Quarterly	4.56	4.56	4.56	4.56	4.56
Monthly	43.41	43.41	43.41	43.41	43.41

Provision of Meter Reading Charge for Non-Tariff Delivery Points ($ p.a.) in real GST exclusive 2010–2011 dollars

	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 20 June 2015
Charge per Delivery Station (includes the first 2 meters at a Delivery Station)	671	671	671	671	671
Charge for each additional 1 or 2 meters at a Delivery Station	160	160	160	160	160

Amendment 13.2: delete clause 6.4 in the access arrangement proposal and clause 11.3.1 in the access arrangement information and replace them with the following:

The formula operates as the first part of a single Reference Tariff variation mechanism

$$P_t = P_t^* (1 + CPI_t)$$

Where P_t is the varied Reference Tariff for the relevant financial year t

P_t^* is the unadjusted and published reference tariff

CPI_t is the CPI in year t relative to the base year prices defined in clause 6.6in the Access Arrangement.

Amendment 13.3: delete the CPI formulas in clause 6.6 in the access arrangement proposal and section 11.3.1.3 in the access arrangement information and replace them the following:

$$CPI_t = \left(\frac{CPI_{\text{MAR t-2}} + CPI_{\text{JUN t-2}} + CPI_{\text{SEP t-2}} + CPI_{\text{DEC t-2}}}{CPI_{\text{MAR 2009}} + CPI_{\text{JUN 2009}} + CPI_{\text{SEP 2009}} + CPI_{\text{DEC 2009}}} \right)$$

Amendment 13.4: amend clause 6.4 in the access arrangement proposal and section 11.3.1.3 in the access arrangement information to define 't' as the year ended 30 June each year in the access arrangement period. For example the t = 2011 for the financial year 2010–2011.

Amendment 13.5: amend clause 6.4 in the access arrangement proposal to include a rounding convention.

Amendment 13.6: amend the access arrangement proposal to:

- delete clause 6.13 and replace it with the following:

  The Relevant Regulator must notify ActewAGL of its decision within 30 Business Days of receiving the notification. This period may be extended for the time taken by the Relevant Regulator to obtain information from ActewAGL, obtain expert advice or consult about the notification under 6.7, 6.7(a) or 6.10. However, the Relevant Regulator must assess a cost pass through application within 90 Business Days, including any extension of the decision making time.

- delete clause 6.14 and replace it with the following:

  If ActewAGL has not received notification from the Relevant Regulator of its decision within 30 Business Days (excluding any extension of time outlined in 6.13) of receiving a notification under 6.7, 6.9(a) or 6.10, the Reference Tariff will be automatically varied in accordance with the relevant notification given by ActewAGL.

Amendment 13.7: delete clause 6.7(b) in the access arrangement proposal and replace it with the following:

An explanation of how the varied Reference Tariffs have been calculated, including details of how the reference Tariffs have been varied in accordance with the formula contained in clauses 6.4 and 6.5 of this Access Arrangement. ActewAGL must provide workings how the proposed tariffs have been

estimated using relevant tariffs in the access arrangement tariff schedule as a reference.

Amendment 13.8: delete clause 6.2(a) in the access arrangement proposal and replace it with the following:

> An annual scheduled Reference Tariff adjustment formula mechanism – which applies in respect of each year during the Access Arrangement period; and

Amendment 13.9: amend:

- the access arrangement proposal to delete the definition for the STTM event in clause 6.20 and replace it with the following:

> **Short Term Trading Market Event** occurs if ActewAGL participates in the Short Term Trading Market, resulting in:
>
> (a) changes in costs that ActewAGL incurs directly or indirectly (including under statute or contract); or
>
> (b) the need to change services provided to accommodate the market, leading to additional costs

- the access arrangement information to delete the definition for the STTM event in Table 11.13 and clause 11.3.2.1 and replace them with the following:

> **Short Term Trading Market Event** occurs if ActewAGL participates in the Short Term Trading Market, resulting in:
>
> (a) changes in costs that ActewAGL incurs directly or indirectly (including under statute or contract); or
>
> (b) the need to change service provided to accommodate the market, leading to additional costs

Amendment 13.10: amend:

- the access arrangement proposal to include a definition for a low administrative cost event to account for the difference between actual and forecast costs in relation to the AEMO fee, UNFT, EIL and UAG in clause 6.20

- the access arrangement proposal to categorise the change in taxation event as a low administrative cost event

- the definition for the change in tax event in clause 6.20 in the access arrangement proposal and in Table 11.13 in the access arrangement information to delete the words:

> except where the change falls within the scope of the Annual Reference Tariffs Variation Formula Mechanism

- the access arrangement information to update section 11.3.2.2 for changes to the access arrangement proposal in amendment 13.10.

Amendment 13.11:

- amend clause 6.19 in the access arrangement proposal to delete the words material impact and replace them with administrative cost impact.

- amend clause 6.20 in the access arrangement proposal to:

  - delete the definition for change in cost and replace it with the following:

    > **Change in Cost** means the decrease or increase in operating expenditure or capital expenditure incurred as a result of the Cost Pass-Through Event, in the Access Arrangement Period.

  - delete the definition of material impact and replace it with the following two new subclauses:

    > **Administrative Cost Impact** means a Cost Pass-Through Event for which the incurred Change in Cost, as a result of each event occurring, is:
    >
    > (a) in the case of a notification under clause 6.8 – for all cost pass through events except Change in Tax Event and Low Administrative Cost Event– at least one per cent of total revenue approved in the relevant year that a cost pass through cost is incurred.
    >
    > (b) in the case of the notification under clause 6.8 – for Change in Tax Event or Low Administrative Cost Event – where the change in cost incurred is greater in magnitude than the administrative costs of the service provider, users and the Relevant Regulator in making a notification; and that the incurred cost of these event can be readily verified by documentation such as invoices or independently audited information. A Change in Tax Event or Low Administrative Cost Event which cannot be supported by will subject to the Administrative Cost Impact in (a).

- delete subclause (b) of the definition of the service standard event in clause 6.20 in the access arrangement proposal and in Table 11.13 in the access arrangement information and replace it with the following:

  > results in ActewAGL incurring or being likely to incur materially higher or lower costs in providing any one or more of the Services than it would have occurred but for that event

- delete the word material and materially from the definition of the general pass through event and regulatory change event in clause 6.20 in the access arrangement proposal and Table 11.13 in the access arrangement information

Amendment 13.12: amend clause 6.11 in the access arrangement proposal to include a new subclause (m):

> how each individual pass through events takes into consideration the Administrative Cost Impact (defined in clause 6.20). All cost through events will be considered by the Relevant Regulator subject to each individual event having an Administrative Cost Impact (defined in clause 6.20) on the cost of providing reference services.

Amendment 13.13: delete clause 6.16 in the access arrangement proposal and replace it with the following:

> In making the decisions referred to in clause 6.12, the Relevant Regulator must take into account the following:
>
> i. The costs to be passed through are for the delivery of pipeline services
>
> ii. The costs to be passed through are building block components of total revenue
>
> iii. The costs to be passed through meet the relevant NGR criteria for determining the building block for total revenue in determining reference services
>
> iv. The costs to be passed through have not been funded by other means including self insurance, external insurance or paid for or compensated by another third party
>
> v. Any other factors the Relevant Regulator considers is relevant and consistent with the National Gas Law and National Gas Rules.

Amendment 13.14: amend clause 6.11 in the access arrangement proposal to include two new subclauses:

> using a verification statement by an officer of the service provider that the financial impact of a Cost Pass-Through Event in an application under clause 6.9 and 6.10 is net of any third party including insurer payment or reimbursement in connection with the event. The verification statement will also provide information about the financial impact of the event less any reimbursement or payment made by a third party in connection with the event to verify the financial impact of the event in an application under clauses 6.9 and 6.10
>
> an application under clauses 6.9 and 6.10 for a Low Administrative Cost Event must be supported by information about the financial impact of taxation change event from the relevant taxation or regulatory authority. Applications for Cost Pass-Through Events other than taxation change events must be supported by relevant information to justify the financial impact of the events with reference to the relevant capital and/or operating expenditure criteria.

Amendment 13.15: delete clause 6.9 in the access arrangement proposal and replace it with the following:

> Subject to 6.10, at least 50 Business Days prior to each 1 July during the access arrangement period ActewAGL will notify the Relevant Regulator that a cost pass through event has occurred (or ActewAGL reasonably expects one will occur) and that ActewAGL is seeking to vary Reference Tariffs. Tariffs will only change once a year on 1 July as a result of cost pass through events that have a low materiality cost (a change in tax event and the event that accounts for the difference between actual and forecasted costs in AEMO fee, UNFT, EIL and UAG). Regardless of whether a cost pass through event leads to tariffs increasing or decreasing, ActewAGL must notify the Relevant Regulator that a cost pass through event other than low cost or taxation events has occurred no later than 3 months after the costs of a cost pass

through event have been incurred.

Non-tariff components

Amendment 14.1: amend the access arrangement proposal to delete clauses 1.56–1.57 in attachment 3A, clauses 1.30–1.31 in attachment 3B, clauses 1.21–1.22 in attachment 3C, and clauses 1.19–1.20 in attachment 3E.

Amendment 14.2: amend the access arrangement information to reflect amendment 14.1.

Amendment 14.3: specify the other terms and conditions on which the ancillary services reference service will be provided. In order to comply with this, ActewAGL must include in the access arrangement: (i) the other terms and conditions on which this reference services is provided; and (ii) amend the access arrangement information to reflect these amendments.

Amendment 14.4: amend attachment 1 in the access arrangement proposal to include a definition of 'OBG'.

Amendment 14.5: delete the reference to '19' charges, in footnote 14 in attachment 3B and replace it with the following:

> Charges for new types of metering devices introduced during the Access Arrangement will be determined by ActewAGL on an equivalent size and function basis.

Amendment 14.6: delete clause 8.1 in the access arrangement proposal and replace it with the following:

> Matters referred to in this chapter 8 are subject to the Business Rules insofar as they are not subject to rule 105 or rule 106 of the National Gas Rules.

Amendment 14.7: delete the definition of 'Business Rules' in attachment 1 in the access arrangement proposal and replace it with the following:

> Business Rules means the *Gas Retail Market Business Rules to Support Retail Competition in Gas* in the ACT and New South Wales (or, if these rules are no longer applicable, any other rules or procedures which govern a gas market that is applicable to ActewAGL) in force from time to time.

Amendment 14.8: delete clause b(i) in the definition of 'Bare Transfer' in attachment 1 in the access arrangement proposal and replace it with the following :

> the subcontract and its likely duration;

Amendment 14.9: delete clause 8.6(a) in the access arrangement proposal and replace it with the following:

> Give or withhold its consent under clause 8.4 or 8.5, on reasonable commercial and technical grounds. An example might be, if ActewAGL would not receive at least the same amount of revenue it would have received before the change.

Amendment 14.10: delete clause 8.8 in the access arrangement proposal and replace

it with the following:

> If at the time the request is made a User informs ActewAGL that due to hardship the User requires an urgent reply to its request, ActewAGL will take reasonable steps to respond to the request within 2 Business Days of receiving the request.

Amendment 14.11: delete clauses 7.1 and 7.2 in the access arrangement proposal and replace them with the following:

> 7.1 Extensions of high pressure pipelines
>
> (a) If ActewAGL proposes a high pressure pipeline extension of the Covered Pipeline it must apply to the Relevant Regulator in writing to decide whether the proposed extension will be taken to form part of the Covered Pipeline and will be covered by this Access Arrangement. The application must describe the extension and set out why the extension is necessary.
>
> (b) The application referred to in (a) above must be made before the proposed high pressure pipeline extension comes into service.
>
> (c) After considering ActewAGL application, and undertaking such consultation as the Relevant Regulator considers appropriate, the Relevant Regulator will inform ActewAGL of its decision.
>
> (d) The Relevant Regulator's decision referred to in (c) above, may be made on such reasonable conditions as determined by the Relevant Regulator and will have the effect stated in the decision.
>
> 7.2 Extensions of medium and low pressure pipelines
>
> Any low or medium pressure pipeline extension of the Capacity of the Network will be treated as part of the Network and accordingly covered by this Access Arrangement. No later than 20 Business Days following the expiration of its financial year, ActewAGL must notify the Relevant Regulator of all low and medium pressure pipeline extensions including all extensions of the Capacity of the Network during that year including all extensions commenced, in progress and completed. The notice must describe each extension and set out why the extension was necessary.

Amendment 14.12: delete clause 7.3 in the access arrangement proposal and replace it with the following:

> Expansions
>
> All expansions to the Capacity of the Network carried out by ActewAGL will be treated by ActewAGL as a Covered Pipeline and covered under this Access Arrangement. No later than 20 Business Days following the expiration of each year, ActewAGL must notify the Relevant Regulator of all expansions of the Capacity of the Network during that year including all expansions commenced, in progress and completed. The notice must describe each expansion and set out why the expansion was necessary.

Amendment 14.13: delete clause 7.4 in the access arrangement proposal and replace it with the following:

Clauses 7.2 and 7.3 do not apply where the cost of the extension or expansion has been included in the calculation of Reference Tariffs.

Amendment 14.14: delete clause 7.6 in the access arrangement proposal and replace it with the following:

Surcharge

ActewAGL will notify the Relevant Regulator of any proposed Surcharge to be levied on users of incremental services and designed to recover non-conforming capital expenditure or a specified portion of non-conforming capital expenditure (non-conforming capital expenditure which is recovered by means of a Surcharge will not be rolled into the capital base).

Amendment 14.15: amend the access arrangement information to reflect **amendments 14.11–14.14.**

Amendment 14.16: amend the access arrangement proposal to include a new part with the following:

The revisions submission date stated in clause 1.16 of this Access Arrangement will advance on the occurrence of a Trigger Event described below.

For the purposes of the provision above, a "Trigger Event" occurs if:

(a) there is an amendment to the National Gas Law or the National Gas Rules; and

(b) the Relevant Regulator provides ActewAGL with a notice stating that the amendment described in (a) affects this Access Arrangement.

The new revisions submission date will be the date which is the earlier of six Months from the date of the notice provided by the Relevant Regulator under (b) above and the original revisions submission date stated in clause 1.16 of this Access Arrangement.

Shortened forms

access arrangement information	ActewAGL, *Access arrangement information for the ACT, Queanbeyan and Palerang gas distribution network*, June 2009
access arrangement period	1 July 2010 to 30 June 2015
access arrangement proposal	ActewAGL, *Access arrangement for the ACT, Queanbeyan and Palerang gas distribution network*, June 2009
ActewAGL	A partnership between ACTEW Distribution Limited and Jemena Networks (ACT) Pty Ltd trading as ActewAGL Distribution
AER	Australian Energy Regulator
Code	National Third Party Access Code for Natural Gas Pipeline Systems
CPI	consumer price index
earlier access arrangement	access arrangement for 1 July 2005 to 30 June 2010 inclusive
earlier access arrangement period	1 July 2005 to 30 June 2010 inclusive
ICRC	Independent Competition and Regulatory Commission
JAM	Jemena Asset Management
NGL	National Gas Law
NGR	National Gas Rules

Summary

Introduction

The AER is responsible for the economic regulation of covered natural gas distribution pipelines in all states and territories (except WA). The AER's functions and powers are set out in the National Gas Law (NGL) and the National Gas Rules[9] (NGR). The NGL and NGR came into effect on 1 July 2008. Prior to this, the National Third Party Access Code for Natural Gas Pipeline Systems (Code) provided the relevant regulatory framework for gas distribution pipelines. ActewAGL's pipeline is currently subject to an access arrangement approved by the Independent Competition and Regulatory Commission (ICRC) under the Code. The AER's draft decision on ActewAGL's access arrangement revision proposal (access arrangement proposal) for ActewAGL for the period 1 July 2010 to 30 June 2015 is one of the first to be made by the AER under the new law. The AER relies on the transitional access arrangement provisions set out in schedule 1 of the NGR. These are designed to facilitate the transition of previous access arrangements from the Code to the NGR.

On 30 June 2009, ActewAGL submitted its access arrangement proposal to the AER. The AER published ActewAGL's access arrangement proposal on 22 July 2009. Interested parties were invited to make submissions on the proposal and two submissions were received from the APA Group and SoftLaw Community Projects. ActewAGL presented its access arrangement proposal at a public forum held in Canberra on 27 July 2009.

The AER engaged the following consultants to assist in its consideration in the access arrangement proposal:

- Wilson Cook to review the proposed capital expenditure
- ACIL Tasman to review the proposed demand forecasts, and
- Access Economics to advise on the proposed labour cost escalators.

The draft decision should be read in conjunction with the consultants' reports, which are available on the AER's website.

Regulatory requirements

National Gas Law

The NGL sets out the functions and powers of the AER, including its role as the economic regulator of covered natural gas distribution pipelines. The NGL states that when performing or exercising a regulatory function or power, the AER must do so in a manner that will or is likely to contribute to the achievement of the national gas objective.[10] The AER is also required to take into account the revenue and pricing

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9 The AER uses the version of the NGR that is in effect on 30 June 2009.

10 NGL, s. 28.

principles when exercising its discretion in approving or making those parts of an access arrangement relating to a reference tariff.[11]

National Gas Rules

The NGR sets out the provisions the AER must apply in exercising its regulatory functions and powers when making the access arrangement draft decision. This involves using a building block approach to determine total revenue for pipeline services, tariff setting for reference services and approving other terms and conditions of access for the pipeline.

Pipeline services

ActewAGL proposes to offer several reference services and two other pipeline services. The services are the same as those offered under the earlier access arrangement period. ActewAGL is required to amend its access arrangement proposal to specify ancillary services as reference services, as these services are integral to the provision of reference services.

Total revenue (building block components)

Capital base

Opening capital base

ActewAGL proposes an opening capital base of $278.3 million for the access arrangement period. ActewAGL's calculation of the opening capital base is summarised in Table 1.

[11] NGL, s. 28.

Table 1: ActewAGL's proposal and AER's conclusion on opeing capital base ($m, nominal)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
ActewAGL's proposed opening capital base							
Opening capital base	225.9	234.1	242.7	250.4	261.0	265.0	278.3
Capital expenditure	9.8	7.2	11.1	7.6	8.7	15.6	
Depreciation	7.3	8.0	8.6	8.4	8.7	9.2	
Adjustment for inflation	5.7	9.5	5.1	11.5	4.0	6.8	
Closing capital base	234.1	242.7	250.4	261.0	265.0	278.2	
Adjustment						0.1	
AER's conclusion opening capital base							
Opening capital base	225.9	233.8	239.3	250.4	255.6	266.1	277.1
Capital expenditure	9.8	7.2	11.1	7.6	7.9	15.0	
Depreciation	7.3	8.0	8.6	8.4	8.7	9.0	
Adjustment for inflation	5.4	6.3	8.7	5.9	11.3	5.0	
Closing capital base	233.8	239.3	250.4	255.6	266.1	277.1	
Adjustment						0.01	

Source: ActewAGL, *Access arrangement information*, June 2009, p. 138 and AER analysis.

ActewAGL's proposed capital expenditure for the earlier access arrangement period includes costs incurred for the preparation of its access arrangement of $1.45 million, which it proposes to capitalise over the access arrangement period. The AER does not approve these costs.

The AER also requires ActewAGL to amend its methodology to adjust the capital base for inflation.

Projected capital base

ActewAGL proposes a projected capital base of $443.1 million. Table 2 sets out ActewAGL's proposed projected capital base and the AER's conclusion on the project capital base.

Table 2: ActewAGL's proposal and AER's conclusion on projected capital base ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15
ActewAGL's proposed projected capital base					
Opening capital base	278.3	294.8	360.9	448.1	445.4
Forecast capital expenditure	25.8	76.7	99.2	10.8	11.4
Forecast depreciation	9.3	10.6	12.0	13.6	13.7
Closing capital base	294.8	360.9	448.1	445.4	443.1
AER's conclusion projected capital base					
Opening capital base	277.1	294.5	309.3	309.6	308.3
Forecast capital expenditure	26.4	25.2	11.4	10.3	10.8
Forecast depreciation	9.0	10.4	11.2	11.6	12.0
Closing capital base	294.5	309.3	309.6	308.3	307.0

Source: ActewAGL, *Access arrangement information*, June 2009, p. 143 and AER analysis.

The main component of ActewAGL's forecast capital expenditure in the access arrangement period is the Hoskinstown to Fyshwick Loop (HFL) project, comprising $134 million of the total forecast capital expenditure of $214.4 million. The HFL is proposed to provide an additional 88 TJ of gas storage capabilities for the ActewAGL network, which ActewAGL submits is to provide security of gas supply to the ACT region during winter peaks.

The AER does not consider that ActewAGL's forecast capital expenditure for the HFL project complies with r. 79 of the NGR and requires ActewAGL to remove the amount of $134 million from its forecast capital expenditure.

In addition, the AER requires ActewAGL to amend the cost escalators it applies to estimate its proposed capital expenditure for more up-to-date forecasts for or double counting of inflation.

Further, ActewAGL is required to amend its approach of using a market implied inflation to adjust the capital base for inflation during the access arrangement period.

The total capital expenditure approved by the AER for the access arrangement period is $81.4 million ($2009–10). This represents an increase in real terms of approximately 28 per cent over total capital expenditure for the earlier access arrangement period.

Depreciation

The AER approves ActewAGL's methodology to estimate depreciation and considers the depreciation schedule meets the requirements of the NGR.

Rate of return

ActewAGL proposes a nominal vanilla weighted average cost of capital (WACC) of 11.09 per cent. The AER requires ActewAGL to reduce the nominal vanilla WACC to 10.14 per cent based on the amendments required to the nominal risk-free rate, equity beta, market risk premium and debt risk premium. The risk free rate is determined based on the specified averaging period which will updated closer to the final decision. Table 3 summarises the proposed and approved WACC parameter values.

Table 3: WACC parameters

Parameter	ActewAGL's proposal	AER's draft decision
Nominal risk-free rate (%)	5.12	5.49[a]
Inflation (%)	2.09	2.45[b]
Real risk-free rate (%)	2.97	2.97[a]
Equity beta	1.0	0.8
Market risk premium (%)	7.5	6.5
Debt risk premium (%)	4.96	4.28[a]
Debt share of total value (gearing) (%)	60	60
Nominal return on equity (%)	12.62	10.69[a]
Nominal return on debt (%)	10.08	9.77[a]
Nominal vanilla WACC (%)	**11.09**	**10.14[a]**
Gamma (utilisation of imputation credits)	0.65	0.65

Source: AER analysis and ActewAGL, *Access arrangement information*, June 2009, pp. 147, 168.

a: These figures have been updated with data current to 23 October 2009, but should be considered indicative only. They will be updated for the final decision (in accordance with the averaging period set out in confidential appendix A).

b: This figure will be updated for the final decision using the latest data from the RBA statement of monetary policy.

Taxation

ActewAGL proposes using a post-tax framework to estimate total using actual taxation asset values as at 1 July 2001 when it first came under the national taxation equivalent regime (NTER). The taxation asset base is rolled forward to

30 June 2010.[12] ActewAGL proposes estimating taxation depreciation on a straight line basis using effective lives published by the Australian Taxation Office.[13]

The AER approves ActewAGL's proposed approach to estimating the cost of corporate income taxation, but requires ActewAGL to amend its access arrangement information to ensure that it describes this approach correctly.

Incentive mechanism

ActewAGL proposes to retain the current incentive mechanism in the access arrangement period.[14] ActewAGL also proposes a new rolling carry over incentive mechanism for capital and operating expenditure. The proposed incentive mechanism will estimate efficiency gains or losses during the access arrangement period with increments or decrements carried over to the next access arrangement period.

The AER does not approve ActewAGL's current incentive mechanism. The AER requires the proposed incentive mechanism to be limited to operating expenditure efficiency gains or losses that are estimated using a respecified incentive mechanism.

Fixed principles

ActewAGL proposes new fixed principles for the proposed incentive mechanism, changes to the capital base and the variation of tariffs during the access arrangement period.

The AER approves the fixed principles proposed for the incentive mechanism for operating expenditure, as well as the increase in the capital base but does not accept the fixed principles established for the variation of tariffs.

Operating expenditure

ActewAGL proposes forecast total operating expenditure for the access arrangement period of $119.0 million ($2009–10), which is $32.0 million[15] higher than the estimated operating expenditure in the earlier access arrangement period.

The AER requires ActewAGL to reduce its forecast operating expenditure by $10.8 million ($2009–10) or 9.1 per cent to a total forecast operating expenditure of $108.2 million ($2009–10). This represents an increase in real terms of approximately 24 per cent compared to the period 1 July 2005 to 30 June 2010.

Table 4 set outs ActewAGL's proposed forecast operating expenditure and the AER's draft decision for forecast operating expenditure.

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12 ActewAGL, *Access arrangement information*, June 2009, p. 216.

13 ActewAGL, *Access arrangement information*, June 2009, p. 217.

14 ActewAGL, *Access arrangement information*, June 2009, p. 221.

15 Calculated using total operating expenditure for the five year period 2005–06 to 2009–10 instead of the six year period covering the earlier access arrangement period.

Table 4: AER's conclusion on ActewAGL's forecast operating expenditure ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
ActewAGL proposed operating expenditure						
Controllable costs	15.0	17.0	17.4	17.1	17.3	83.7
Non-controllable costs[a]	6.8	6.9	7.1	7.2	7.3	35.3
Total operating expenditure[b]	21.8	23.9	24.5	24.3	24.6	119.0
AER draft decision operating expenditure						
Controllable costs	14.6	16.2	16.4	16.0	16.1	79.3
Non-controllable costs	5.7	5.7	5.8	5.8	5.9	28.9
Total operating expenditure[b]	20.2	22.0	22.2	21.8	22.0	108.2

Source: ActewAGL, *Access arrangement information*, Table 9.25, p. 209 and AER analysis.
a: ActewAGL refer to non-controllable costs as other allowable costs.
b: Totals may not add up due to rounding.

Total revenue

ActewAGL's proposed total revenue requirement for each year of the access arrangement period and X factors are set out in Table 5.

Table 5: ActewAGL's proposed annual revenue requirements and X factors ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15
Return on capital	30.9	33.4	41.7	52.9	53.7
Depreciation	3.7	4.7	4.9	4.8	5.1
Operating and maintenance	22.3	24.9	26.1	26.4	27.2
Corporate income taxation	1.2	1.4	1.6	2.0	2.0
Incentive mechanism payments	na	na	na	na	na
Total	58.0	64.4	74.3	86.0	88.0
X factor tariff revenue [a, b]	–12.2%	–12.2%	–12.2%	–12.2%	–12.2%

Source: ActewAGL, *Access arrangement information*, June 2009, pp. 213, 220.
na: Not applicable
a: Negative values for X indicate real price increases under the CPI–X formula.
b: The X factors in the Table above are indicative only.

The AER has estimated ActewAGL's total revenue over the access arrangement period to be $301.4 million compared to $370.7 million proposed by ActewAGL,

based on its assessment of this expenditure against the relevant criteria for the building block components. The approved forecasts and relevant X factors are summarised in Table 6.

Table 6: AER's conclusion on ActewAGL's annual revenue requirements and X factors ($m, nominal unless otherwise stated)

	2010–11	2011–12	2012–13	2013–14	2014–15
Return on capital	28.1	30.6	32.9	33.8	34.4
Depreciation	2.4	3.5	4.0	4.7	5.3
Operating and maintenance	20.7	23.1	23.9	24.1	24.8
Corporate income taxation	0.8	1.0	1.1	1.1	1.2
Incentive mechanism payments	na	na	na	na	na
Total	52.1	58.1	61.9	63.6	65.7
X factor tariff revenue[a] (%)	–5.2	–5.2	–5.2	–5.2	–5.2
Revenue smoothing path	51.4	55.2	59.9	65.2	71.2

na: Not applicable.
a: Negative values for X indicate real price increases under the CPI–X formula.

Tariffs

Demand forecasts

ActewAGL's demand forecasts for the access arrangement period are outlined in Table 7. These demand forecasts support ActewAGL's proposed capital expenditure and operating expenditure forecasts.

Table 7: ActewAGL's forecast demand and customer numbers (units as stated)

	2010–11	2011–12	2012–13	2013–14	2014–15
Tariff Customers (no.)	119 711	123 429	127 030	130 284	133 420
Tariff load (TJ)	6545	6525	6565	6642	6736
Contract Customers (no.)	41	41	41	41	42
Contract load (TJ)	1166	1171	1179	1192	1210
Total load (TJ)	7711	7696	7744	7834	7946

Source: ActewAGL, *Access arrangement information*, June 2009, pp. 91–92.

The AER approves ActewAGL's demand forecasts.

Reference tariffs

ActewAGL proposes two tariff classes: tariff and contract. ActewAGL submits that the tariffs meet the requirements for determining distribution tariffs.

The AER requires ActewAGL to amend the tariff schedule for reductions in total revenue, the reclassification of ancillary services as reference services and to revise the throughput charges for tariff services. Further, the AER requires ActewAGL to amend its proposed reference tariff policy.

Tariffs for residential and commercial customers will increase by 11.6 per cent in 2010–11 and by 7.8 per cent in nominal terms over the remaining years of the access arrangement period. Tariffs for contract customers will fall by 11 per cent in 2010–11 and will rise in line with CPI over the remaining years of the access arrangement period. These estimated tariffs do not take into account the impact of cost pass throughs.

Tariff variation mechanism

ActewAGL proposes a new annual tariff variation mechanism which adjusts for changes in CPI, as well as for an adjustment factor for differences between the forecast and actual cost of certain uncontrollable costs and fees.

ActewAGL updates its cost pass through mechanism for contemporaneous events such as the CPRS, the national energy customer framework, the national energy connection framework and the Short Term Trading Market (STTM) and also proposes a general pass through event. The cost pass through mechanism has a materiality threshold of $0.5 million ($2009–10) for events that are notified outside the annual tariff variation process.

ActewAGL proposes notification and assessment procedures for both tariff variation mechanisms.

The AER requires ActewAGL to amend its annual tariff variation formula mechanism to remove the adjustment factor and for minor changes to the specification of this mechanism.

To accommodate changes to the annual tariff variation formula mechanism, ActewAGL is also required to make amendments to the proposed the cost pass through mechanism, including the definition of some events.

The AER also requires ActewAGL to amend the proposed notification and oversight procedures for both tariff variation mechanisms.

Non tariff components

Terms and conditions

ActewAGL proposes amendments to the general terms and conditions to reflect the transition from the Code to the NGL and NGR, to which the AER proposes some minor amendments.

Capacity trading requirements

ActewAGL proposes a capacity trading policy to provide users with the ability to alter their rights in certain circumstances. The policy is subject to the Gas Retail Market Business Rules and the requirements of the NGR.

The AER has proposed minor amendments to the capacity trading requirements in relation to bare transfers, withholding consent and response times to urgent requests.

Queuing

ActewAGL's queuing policy states that priority is determined according to the time and date on which ActewAGL receives requests for services and the ability of the available capacity to fully satisfy the applicant's requirement

ActewAGL has no obligation to include queuing requirements as it operates a distribution pipeline. However, the AER has reviewed the queuing policy and proposes to approve it.

Extension and expansion requirements

ActewAGL proposes that any extensions or expansions will generally be treated as part of the covered pipeline and covered by the access arrangement.

The AER considers that whether a particular extension should be covered under the access arrangement will depend on whether the extension relates to a high pressure pipeline or a medium or low pressure pipeline, and the AER has proposed amendments to reflect this requirement. The AER accepts that expansions of pipeline capacity should be covered under the access arrangement.

Changing receipt and delivery points

ActewAGL proposes that users may change receipt or delivery points with prior written consent, which the AER approves subject to some minor amendments.

Review dates

ActewAGL proposes and the AER approves a review submission date of 30 June 2014 and a revision commencement date of 1 July 2015.

1 Introduction

1.1 Background

ActewAGL Distribution (ActewAGL) is a partnership of ACTEW Distribution Ltd and Jemena Networks (ACT) Pty Ltd who, through the partnership jointly own, control and operate the ACT, Queanbeyan and Palerang gas distribution network. [16]

ActewAGL contracts out the operation of its gas distribution network to Jemena Asset Management Pty Limited (JAM) under a distribution asset management services agreement.[17]

1.1.1 Regulatory requirements

The AER is responsible for the economic regulation of covered natural gas distribution pipelines in all states and territories (except WA). The AER's functions and powers are set out in the NGL and the NGR.

ActewAGL's access arrangement for the earlier access arrangement period is a transitional access arrangement in accordance with schedule 1 of the NGR. This means the transitional arrangements set out in schedule 1 of the NGR apply to the review of ActewAGL's access arrangement proposal for the access arrangement period.

1.1.1.1 National Gas Law

The NGL states that when performing or exercising an economic regulatory function or power, the AER must do so in a manner that will or is likely to contribute to the achievement of the national gas objective. The national gas objective is:

> ... to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas. [18]

The AER must take into account the revenue and pricing principles when exercising a discretion in approving or making those parts of an access arrangement relating to a reference tariff. The AER may also take the revenue and pricing principles into consideration in its performance or exercise of any other economic regulatory function or power where it considers this appropriate.[19]

1.1.1.2 National Gas Rules

The NGR sets out the provisions the AER must apply in exercising its regulatory functions and powers when making the draft decision on ActewAGL's access arrangement proposal.

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16 ActewAGL, *Access arrangement information*, June 2009, pp. 9–10.

17 ActewAGL, *Access arrangement information*, June 2009, p. 23.

18 NGL, s. 23.

19 NGL, s. 28. The revenue and pricing principles are set out in NGL, s. 24.

1.1.1.3 National Energy Customer Framework

The Ministerial Council on Energy Standing Committee of Officials released the First Exposure Draft of the National Energy Customer Framework (NECF) on 30 April 2009.[20] The details of the final framework, the timing of the new regulatory framework and transitional provisions that may apply are not yet finalised and it is uncertain what impact, if any, the new framework might have on access arrangements. Rule 65 of the NGR allows variations of applicable access arrangements and is available to service providers if changes to the access arrangement are required following the introduction of the NECF.

1.1.2 Pipeline description

ActewAGL's gas distribution network comprises 4200 km of pipeline, delivers around 7.5 PJ of gas annually and supplies gas to 112 000 customers primarily in the districts of the ACT, Queanbeyan and Palerang.[21]

Canberra is supplied by gas sourced from the Cooper Basin and supplied by a lateral pipeline that branches off the Moomba–Sydney Pipeline.[22] Canberra is also supplied by gas sourced from Longford by an interconnection with the Eastern Gas Pipeline.[23]

ActewAGL's gas distribution network is classified as a covered distribution pipeline.[24]

1.2 Review process

The AER has reviewed ActewAGL's access arrangement proposal and access arrangement information in accordance with the NGL and NGR.

- ActewAGL submitted its access arrangement proposal and access arrangement information to the AER on 30 June 2009.
- The access arrangement proposal and access arrangement information were published on the AER's website on 22 July 2009 and submissions were sought from interested parties.
- The request for submissions on ActewAGL's access arrangement proposal and access arrangement information closed on 11 September 2009.
- The AER engaged Wilson Cook to review ActewAGL's proposed capital and operating expenditure.

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20 Ministerial Council on Energy Standing Committee of Officials, *First Exposure Draft of the National Energy Customer Framework*, viewed 10 September 2009, <http://www.ret.gov.au/Documents/mce/_documents/Energy%20Market%20Reform/NECF%20Package-First%20Exposure%20Draft.pdf>.

21 ActewAGL, *Access arrangement information*, June 2009, pp. xiii, 12, 13, 75–76.

22 ActewAGL, *Access arrangement information*, June 2009, p. 13.

23 ActewAGL, *Access arrangement information*, June 2009, p. 13.

24 AEMC, *List of Natural Pipelines – description and classifications*, viewed 15 October 2009, <http://www.aemc.gov.au/Gas/Scheme-Register/Pipeline-list-summary.html >.

- The AER engaged ACIL Tasman to review ActewAGL's proposed demand forecasts.

- The AER engaged Access Economics to review ActewAGL's proposed labour cost escalators.

Based on the advice provided by the AER's consultants and submissions received from interested parties the AER has prepared this draft decision.

The AER has scheduled a forum on its draft decision for ActewAGL on 17 November 2009 in Canberra. This forum will be used by the AER to explain its draft decision to interested parties and consider comments from interested parties.

ActewAGL may submit a revised access arrangement proposal and access arrangement information to the AER by 6 January 2010.[25]

Interested parties are invited to make written submissions on issues regarding the draft decision and consultants' reports to the AER by 12 February 2010. The AER expects to release the final decision in early April 2010.

1.3 Structure of draft decision

The AER's consideration of ActewAGL's access arrangement proposal and accompanying access arrangement information are set out as follows:

- Introductory chapters outline the introduction and pipeline services.

- Part A outlines the key components of the total revenue building blocks including the capital base, depreciation, the rate of return, taxation, the incentive mechanism, operating expenditure and total revenue.

- Part B outlines the demand forecasts, reference tariffs and tariff variation mechanisms.

- Part C outlines the non-tariff components of the access arrangement proposal.

[25] NGR, r. 60 and r. 43(3).

2 Pipeline services

2.1 Introduction

This chapter considers the pipeline services set out in ActewAGL's access arrangement proposal.

2.2 Regulatory requirements

Rule 48(1) of the NGR provides that a full access arrangement must specify certain information for pipeline services, including reference services. Pipeline services include haulage services, interconnection services and ancillary services.[26] Reference services are defined as pipeline services that are likely to be sought by a significant part of the market.[27] Relevantly, an access arrangement must:

- identify the pipeline to which the access arrangement relates and a website at which a description of the pipeline can be inspected[28]
- describe the pipeline services the service provider proposes to offer to provide by means of the pipeline[29]
- specify the reference tariff for each reference service.[30]

In addition, r. 101(1) of the NGR provides that a full access arrangement must specify all reference services.[31]

Rule 109(1) of the NGR provides that a scheme pipeline service provider[32] must not make it a condition of the provision of a particular service to a prospective user that the prospective user accept another non-gratuitous service from the service provider, unless the bundling of services is reasonably necessary.[33]

2.3 ActewAGL's proposal

ActewAGL proposes to offer pipeline services, comprising several reference services and two services that are not reference services (non-reference services).[34] The services are the same as those offered under the earlier access arrangement period.

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26 NGL, s. 2.

27 NGR, r. 101(2).

28 NGR, r. 48(1)(a).

29 NGR, r. 48(1)(b).

30 NGR, r. 48(1)(d)(i).

31 NGR, r. 101(1).

32 Rule 3 of the NGR defines a 'scheme pipeline service provider' as 'a service provider for a scheme pipeline'. Section 2 of the NGL provides that 'scheme pipeline' 'means— (a) a covered pipeline; or (b) an international pipeline to which a price regulation exemption applies'.

33 NGR, r. 109(1).

34 ActewAGL, *Access arrangement information,* June 2009, pp. 227–228 and ActewAGL, *Access arrangement proposal*, June 2009, attachment 3A, clauses 1.56–1.57; attachment 3B, clauses 1.30–1.31; attachment 3C, clauses 1.21–1.22; attachment 3E, clauses 1.19–1.20.

ActewAGL did not provide information regarding its ancillary service other than to state that this comprises the following services: (i) a request for service; (ii) a special meter read; (iii) a reconnection service; and (iv) a disconnection service.[35] Ancillary services are included in real 2009–10 dollars in a tabular format in all reference services except for the multiple delivery point service and the meter data service.

ActewAGL submits that the non-reference services offered by it were not sought by any customers during the earlier access arrangement period. It submits that these non-reference services are unlikely to be sought by a significant part of the market during the access arrangement period.[36]

2.3.1 Reference services

ActewAGL proposes to provide transport reference services and services other than transport services.

2.3.1.1 Transport reference services

- Capacity reservation service—a transport service from the receipt point to a single non–tariff delivery point. Charges are determined on the basis of reserved capacity, with additional options including:
  - Summer tranche option—provides an option to book capacity between the months of October and April (inclusive).
  - Short-term capacity option—available to end users using gas for purposes other than space heating (subject to available capacity). There are two options—one for requirements of 30 TJ or less of gas per year, the other for requirements over 30 TJ of gas per year. A short-term capacity charge (premium) may be charged for the under 30 TJ option.[37]
- Managed capacity service—a transport service from a receipt point to a single non–tariff delivery point where charges are determined on the basis of reserved capacity.[38]
- Throughput service—a transport service from a receipt point to a single non–tariff delivery point where charges are determined on the basis of throughput.[39]
- Multiple delivery point service—a transport service from a receipt point to a number of non–tariff delivery points, where charges are based on the relevant service at each delivery point.[40]

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35 ActewAGL, *Access arrangement proposal*, June 2009, attachment 3A, clauses 1.56–1.57; attachment 3B, clauses 1.30–1.31; attachment 3C, clauses 1.21–1.22; attachment 3E, clauses 1.19–1.20.

36 ActewAGL, *Access arrangement information*, June 2009, p. 228.

37 ActewAGL, *Access arrangement information*, June 2009, p. 227.

38 ActewAGL, *Access arrangement information*, June 2009, p. 227.

39 ActewAGL, *Access arrangement information*, June 2009, p. 227.

40 ActewAGL, *Access arrangement information*, June 2009, p. 227.

- Tariff service—a transport service from the receipt point to one or more tariff delivery points, where charges are determined on the basis of throughput.[41]

2.3.1.2 Services other than transport services

- Meter data service—a service comprising the reading of meters and handling of metering data.[42]

ActewAGL states that these reference services are the same as those offered in the earlier access arrangement period, and are likely to be sought by a significant part of the market.[43] ActewAGL also includes ancillary services in its structure of reference service tariffs.[44] It states that ancillary services comprise: (i) a request for service; (ii) a special meter read service; (iii) a reconnection service; and (iv) a disconnection service.[45] Except for the multiple delivery point service and the meter data service, all of ActewAGL's reference services include ancillary services.

ActewAGL proposes dividing customers into two tariff classes: tariff and contract customers. Tariff customers obtain less than 10 TJ of gas annually and non-tariff customers obtain more than 10 TJ of gas annually.[46]

Non-tariff customers obtain supply at the tariff rate but are supplied on a contracted basis. They are able to obtain all services with exception of the tariff service. Tariff customers are only offered the tariff and the meter data service.[47]

ActewAGL submits that customers are required to use its meter data service where it offers this as a reference service for the relevant delivery point in conjunction with one of the following services: (i) capacity reservation service;[48] (ii) managed capacity service;[49] (iii) throughput service;[50] and (iv) tariff service.[51]

2.3.2 Non-reference services

ActewAGL's proposed non-reference services are:

- Interconnection of embedded network service—a service to provide for the establishment of a single delivery point from the network to an embedded network.

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41 ActewAGL, *Access arrangement information*, June 2009, p. 227.

42 ActewAGL, *Access arrangement information*, June 2009, p. 228.

43 ActewAGL, *Access arrangement information*, June 2009, pp. 227–228.

44 ActewAGL, *Access arrangement proposal, June 2009*, Table 5.1, p. 26.

45 ActewAGL, *Access arrangement proposal*, June 2009, attachment 3A, clauses 1.56–1.57; attachment 3B, clauses 1.30–1.31; attachment 3C, clauses 1.21–1.22; attachment 3E, clauses 1.19–1.20.

46 ActewAGL, *Access arrangement information*, June 2009, p. 229.

47 ActewAGL, *Access arrangement information*, June 2009, p. 229.

48 ActewAGL, *Access arrangement proposal*, June 2009, attachment 3A, clause 1.16.

49 ActewAGL, *Access arrangement proposal*, June 2009, attachment 3B, clause 1.16.

50 ActewAGL, *Access arrangement proposal*, June 2009, attachment 3C, clause 1.15.

51 ActewAGL, *Access arrangement proposal*, June 2009, attachment 3E, clause 1.16.

- Negotiated service—any service to meet the needs of a user which is not met by the reference service.

2.4 AER's analysis and considerations

2.4.1 Pipeline services

The AER is satisfied that ActewAGL identifies the pipeline the subject of the proposal and includes a reference to a website at which a description of the pipeline can be inspected.[52] This meets the requirements of rule 48(1)(a) of the NGR.

ActewAGL describes all pipelines services that it proposes to provide by means of the pipeline, except for ancillary services.[53] Because ActewAGL has not described the ancillary services it does not meet the requirements of rule 48(1)(b) of the NGR.

Conclusion

The AER does not propose to approve ActewAGL's description of pipeline services as it does not comply with r. 48(1)(b) of the NGR and requires ActewAGL to make the following amendments:

Amendment 2.1: amend section 2.5 to the access arrangement proposal to include the following:

> There is an Ancillary Service available – this is a service for the provision of: (i) requests for services; (ii) special meter reads; (iii) reconnection fees; and (iv) disconnection fees.

Amendment 2.2: amend paragraph three of chapter 11.1 of the access arrangement information to include the following:

> The reference services, as set out in part 2 of the access arrangement proposal, are as follows:
>
> Ancillary Service – this is a service for the provision of: (i) requests for services; (ii) special meter reads; (iii) reconnection fees; and (iv) disconnection fees.

Amendment 2.3: amend the access arrangement information to reflect **amendments 2.1 and 2.2**.

2.4.2 Reference services

ActewAGL states that it proposes to offer the following reference services:

- capacity reservation service
- managed capacity service

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52 ActewAGL, *Access arrangement information*, June 2009, pp. 12–17.

53 ActewAGL, *Access arrangement proposal,* June 2009, pp. 7–17, 53–89, 95–112.

- throughput service
- multiple delivery point service
- tariff service
- meter data service.[54]

Attachments 3A, 3B, 3C and 3E of ActewAGL's proposal include amended charges for the following 'ancillary services': (i) a request for service; (ii) a special meter read; (iii) a reconnection service; and (iv) a disconnection service. Ancillary service charges are also included in ActewAGL's overview of the structure of reference tariffs.[55]

In the earlier access arrangement period, the ICRC approved ActewAGL's ancillary services as non-reference services because ActewAGL had submitted that in the past ancillary services had been requested by a small portion of the market and there were no strong reasons to suggest that requests are likely to increase substantially in the future.[56] ActewAGL has not made a similar submission for the access arrangement period.

Rule 101 of the NGR does not specify a timeframe within which services are to be likely to be sought by a significant part of the market. As the ancillary services are likely to be sought by a significant part of the market at some point in time, the AER considers that ancillary services are reference services. This classification of ancillary services (as reference services) makes ancillary services subject to approval by the AER.

As ancillary services are in effect reference services, the AER does not propose to approve ActewAGL's specification of reference services as it does not comply with r. 48(1)(c) of the NGR and requires ActewAGL to make the following amendments:

Amendment 2.4: amend attachment 1 in the access arrangement proposal to delete the definition of reference service and replace it with the following:

> **Reference Service** means the:
>
> Ancillary Service;
>
> Tariff Service;
>
> Capacity Reservation Service;

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54 ActewAGL, *Access arrangement information*, June 2009, pp. 227–228 and ActewAGL, *Access arrangement proposal*, June 2009, p. 4.

55 ActewAGL, *Access arrangement proposal*, June 2009, p. 26.

56 ICRC, *Final decision, Review of access arrangement for ActewAGL natural gas system in ACT, Queanbeyan and Yarrowlumla*, October 2004, p. 43. See also, ICRC, *Draft decision, Review of access arrangement for ActewAGL natural gas system in ACT, Queanbeyan and Yarrowlumla*, July 2004, p. 31.

Managed Capacity Service;

Throughput Service;

Multiple Delivery Point Service; or

Meter Data Service.

Amendment 2.5: amend attachment 1 in the access arrangement proposal include a definition of ancillary service.

Amendment 2.6: amend the access arrangement information to reflect **amendments 2.4 and 2.5.**

Prohibition of bundling of services

ActewAGL proposes to make the purchase of its gas transportation services conditional on users also acquiring its meter data services.[57] It submits that it will cease to offer its meter data service as a bundled service when this service becomes contested.[58] This is consistent with the ICRC's decision in the earlier access period[59] and the AER considers this appropriate under the NGL and NGR.

Broadly speaking, bundling of services is prohibited unless the bundling is reasonably necessary.[60] ActewAGL has not made a submission outlining why it is necessary to bundle meter data services with its gas transportation services. However, the AER recognises that until the data reading market is contestable, these services cannot be provided by a third party. For practical reasons, including quantifying the volume of gas transported, it is currently necessary to utilise ActewAGL's meter data service.

On the basis of the information available to it, the AER considers that ActewAGL's bundling of services is reasonably necessary.[61]

Conclusion

The AER does not propose to approve ActewAGL's bundling of services as it does not comply with r. 109(2) of the NGR and requires ActewAGL to make the following amendments:

Amendment 2.7: amend clauses 1.16 in attachment 3A, 1.16 in attachment 3B, 1.15 in attachment 3C and clause 1.11 in attachment 3E in the access arrangement proposal to include the following:

> Users shall be free to acquire such services from parties unrelated to ActewAGL on the date that meter reading or on-site data and communications becomes

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57 ActewAGL, *Access arrangement proposal*, June 2009, attachment 3A, clause 1.16; attachment 3B, clause 1.16; attachment 3C, clause 1.15; attachment 3E, clause 1.11.

58 ActewAGL, *Access arrangement proposal*, June 2009, clauses 2.8–2.9; attachment 3F, clause 1.5.

59 See ICRC, *Final decision: Review of access arrangement for ActewAGL natural gas system in ACT, Queanbeyan and Yarrowlumla*, October 2004, pp. 49–50.

60 NGR, r. 109.

61 NGR, r. 109.

contestable.

Amendment 2.8: amend clause 1.5 in attachment 3F in the access arrangement proposal to include the following:

> At this time all Users shall be free to acquire such services from third parties unrelated to ActewAGL.

2.4.3 Non-reference services

Embedded network services and negotiated services

ActewAGL submits that its interconnection of embedded network services and negotiated services 'have not been sought by any customers or potential customers during the earlier access arrangement period, and ActewAGL considers that they are unlikely to be sought by a significant part of the market during the access arrangement period'.[62]

The AER has no information before it to suggest that the interconnection of embedded network services or negotiated services are likely to be sought by a significant part of the market. The AER considers that these constitute non-reference services.

[62] ActewAGL, *Access arrangement information*, June 2009, p. 228.

Part A – Total revenue (building block components)

3 Capital Base

3.1 Introduction

This chapter sets out the AER's consideration and analysis of the capital base that ActewAGL proposes for the access arrangement period. This chapter includes a consideration of the opening capital base which forms the initial value of the projected capital base.

The projected capital base is an input into the return on the projected capital base, and second, depreciation. This chapter considers:

- the opening capital base including the past capital expenditure proposed by ActewAGL for the earlier access arrangement period, and
- the projected capital base, including forecast capital expenditure that ActewAGL proposes for the access arrangement period.

The AER's consideration of ActewAGL's depreciation schedule is set out in chapter 4 of the draft decision.

3.2 Regulatory requirements

3.2.1 Opening capital base

Clause 3(2) of schedule 1 of the NGR provides that an agreement by the Relevant Regulator under section 8.21 of the Code that actual or forecast new facilities investment meets or will meet the requirements of section 8.16(a) of the Code will be taken to be:

- in the case of actual expenditure - a decision by the AER under r. 79 of the NGR to the effect that the capital expenditure conforms with the new capital expenditure criteria, and
- in the case of forecast capital expenditure – a determination by the AER under r. 80 of the NGR that, if the capital expenditure is made in accordance with the conditions of the agreement, it will meet the new capital expenditure criteria.

Rules 72(1)(a)(i) and (b) of the NGR provide that the access arrangement information for a full access arrangement proposal must include:

- capital expenditure (by asset class) over the earlier access arrangement period, and
- how the capital base is arrived at and a demonstration of how the capital base increased or diminished over the previous access arrangement period.

Rule 77(2) of the NGR provides that if an access arrangement period follows immediately on the conclusion of a previous access arrangement period, the opening capital base for the later access arrangement period is to be:

(a) the opening capital base as at the commencement of the earlier access arrangement period (adjusted for any difference between estimated and actual capital expenditure included in that opening capital base);

plus:

(b) conforming capital expenditure made, or to be made, during the earlier access arrangement period;

plus:

(c) any amounts to be added to the capital base under rule 82, 84 or 86;

less:

(d) depreciation over the earlier access arrangement period (to be calculated in accordance with any relevant provisions of the access arrangement governing the calculation of depreciation for the purpose of establishing the opening capital base); and

Note:

See rule 90.

(e) redundant assets identified during the course of the earlier access arrangement period; and

(f) the value of pipeline assets disposed of during the earlier access arrangement period.

3.2.2 Projected capital base

Rule 72(1)(c) of the NGR provides that the access arrangement information for a full access arrangement proposal must include the projected capital base over the access arrangement, including:

(i) a forecast of conforming capital expenditure for the period and the basis for the forecast; and

(ii) a forecast of depreciation for the period including a demonstration of how the forecast is derived on the basis of the proposed depreciation method;

Rule 78 of the NGR provides that the projected capital base for a particular period is:

(a) the opening capital base;

plus:

(b) forecast conforming capital expenditure for the period;

less:

(c) forecast depreciation for the period; and

(d) the forecast value of pipeline assets to be disposed of in the course of the period.

Rule 79(1) of the NGR provides that conforming capital expenditure is capital expenditure that conforms with the following:

- the capital expenditure must be such that it would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services and

- the capital expenditure must be justifiable on a ground stated in r. 79(2) of the NGR.

Grounds in r. 79(2)(c) of the NGR for justifying capital expenditure are:

> (i) to maintain and improve the safety of services; or
>
> (ii) to maintain the integrity of services; or
>
> (iii) to comply with a regulatory obligation or requirement; or
>
> (iv) to maintain the service provider's capacity to meet levels of demand for services existing at the time the capital expenditure is incurred (as distinct from projected demand that is dependent on an expansion of pipeline capacity);

3.2.3 Opening capital base for the next access arrangement period

Rule 90(1) of the NGR provides that a full access arrangement must contain provisions governing the calculation of depreciation for establishing the opening capital base for the next access arrangement period after the one to which the access arrangement currently relates. Rule 90(2) of the NGR provides that the provisions must resolve whether depreciation of the capital base is to be based on forecast or actual capital expenditure.

3.2.4 Capital redundancy

Rule 85(1) of the NGR provides that a full access arrangement may include (and the AER may require it to include) a mechanism to ensure that assets that cease to contribute in any way to the delivery of pipeline services are removed from the capital base. Rule 85(2) of the NGR provides that a reduction of the capital base in accordance with such a mechanism may only take effect from the commencement of the first access arrangement period to follow the inclusion of the mechanism in the access arrangement or the commencement of a later access arrangement period.

Rule 85(4) of the NGR provides that before requiring or approving a mechanism, the AER must take into account the uncertainty such a mechanism would cause and the effect the uncertainty would have on the service provider, users and prospective users.

Clause 3(13) of schedule 1 of the NGR provides that a mechanism approved in a transitional access arrangement for removing redundant capital under section 8.27 of the Gas Code, will be taken to be a corresponding mechanism under r. 85 of the NGR.

3.2.5 Key performance indicators

Rule 72(1)(f) of the NGR provides that the access arrangement information for a full access arrangement proposal must include key performance indicators to be used by

the service provider to support expenditure to be incurred over the access arrangement period.

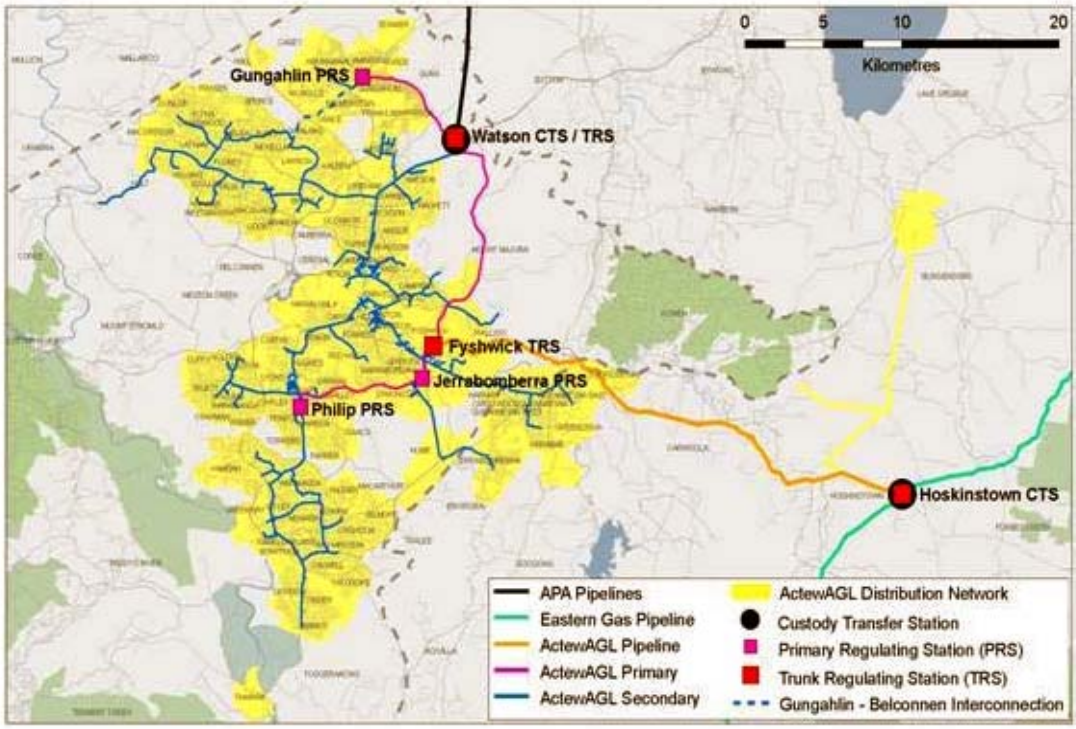
3.3 ActewAGL's proposal

3.3.1 Opening capital base

A map of ActewAGL's ACT, Queanbeyan and Palerang gas distribution network, the assets of which constitute ActewAGL's capital base, is shown in Figure 3.1.

Map of ActewAGL's ACT, Queanbeyan and Palerang gas distribution network

Figure 3.1: Map of ActewAGL's ACT, Queanbeyan and Palerang gas distribution network



Source: ActewAGL, *Access arrangement information*, June 2009, p 14.

ActewAGL proposes an opening capital base of $278 million for the access arrangement period. Table 3.1 shows ActewAGL's calculation of the opening capital base for the access arrangement period.

Table 3.1: ActewAGL's opening capital base ($m, nominal)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Opening capital base	225.9	234.1	242.7	250.4	261.0	265.0	278.3
Capital expenditure	9.8	7.2	11.1	7.6	8.7	15.6	
Depreciation	7.3	8.0	8.6	8.4	8.7	9.2	
Adjustment for inflation	5.7	9.5	5.1	11.5	4.0	6.8	
Closing capital base	234.1	242.7	250.4	261.0	265.0	278.2	
Adjustment[a]						0.1	

Source: ActewAGL, *Access arrangement information*, June 2009, p. 138.
a: ActewAGL proposes an adjustment of $0.1 million for the return on the difference between actual and forecast capital expenditure in 2003–04.

ActewAGL does not propose any additions to its capital base from capital contributions by users during the earlier access arrangement period.[63]

The ICRC approved $50 000 per annum for disposal of meters for the earlier access arrangement period. ActewAGL submits that no assets are expected to be disposed of in the earlier access arrangement.[64]

ActewAGL does not propose any changes to the capital base for redundant assets in the earlier access arrangement period.[65]

3.3.1.1 Capital expenditure

ActewAGL proposes to include conforming capital expenditure in the opening capital base of $65 million ($2009–10) as set out in Table 3.2. This value is below the forecast conforming capital expenditure of $66 million ($2009–10) approved by the ICRC in the earlier access arrangement period.[66]

63 ActewAGL, *Access arrangement information*, June 2009, p. 128.

64 ActewAGL, *Access arrangement information*, June 2009, p. 136.

65 ActewAGL, *Access arrangement information*, June 2009, p. 136.

66 ActewAGL, *Access arrangement information*, June 2009, p. 97.

Table 3.2: Forecast and actual/estimated capital expenditure for 2004–10 ($m, real, 2009–10)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Total
Forecast (ICRC approved)	14.4	11.0	10.3	9.5	12.7	8.1	65.9
Actual/estimated	11.2	8.1	12.1	9.1	9.1	15.6	65.2
Difference	–3.2	–2.9	1.8	–0.4	–3.6	7.5	–0.7

Source: ActewAGL, *Access arrangement information*, June 2009, p. 97.

ActewAGL separates its capital expenditure into market expansion, capacity development, stay in business and non-system costs. ActewAGL submits that the difference between forecast capital expenditure and actual capital expenditure in the earlier access arrangement period was due to:

- Deferral of a number of different capacity development capital expenditure projects due to lower load growth than forecast.
- Lower stay in business capital expenditure because of the deferral of meter renewal and upgrade. This was due to a positive technical assessment of ActewAGL's meter assets.
- Higher market expansion capital expenditure caused by a change in the customer mix from what was forecast. A greater percentage of new medium density and a lower percentage of new homes than forecast. This increased the average cost of new connections.[67]
- Higher stay in business capital expenditure for new pipeline inspection gauge facilities and trunk receiving station (TRS) upgrades forecast for 2009–10.
- Higher non-system costs than forecast in 2008–09 and 2009–10 due to regulatory costs incurred for the new access arrangement and improvements to ActewAGL's geographic information system (GIS).[68]

3.3.1.2 Adjustment of the capital base for inflation

ActewAGL proposes to index its capital base for the earlier access arrangement period using actual inflation figures. For 2009–10, ActewAGL proposes using the inflation forecast published in the Reserve Bank of Australia's (RBA) statement of monetary policy in May 2009.[69]

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67 ActewAGL classifies its connections within the residential sector as 'new homes', 'new medium density' and 'existing homes' (electricity to gas). ActewAGL, *Access arrangement information*, June 2009, p. 100.

68 ActewAGL, *Access arrangement information*, June 2009, pp. 98, 104.

69 ActewAGL, *Access arrangement information*, June 2009, p. 137.

3.3.2 Projected capital base

ActewAGL proposes a projected closing capital base of $443.1 million in the access arrangement period, which incorporates forecast capital expenditure of $223.9 million and depreciation of $59.2 million. The projected capital base is outlined in Table 3.3.

Table 3.3: ActewAGL's projected capital base ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15
Opening capital base	278.3	294.8	360.9	448.1	445.4
Forecast capital expenditure	25.8	76.7	99.2	10.8	11.4
Forecast depreciation	9.3	10.6	12.0	13.6	13.7
Closing capital base	294.8	360.9	448.1	445.4	443.1

Source: ActewAGL, *Access arrangement information*, June 2009, p. 143.

ActewAGL does not propose any capital contributions from users to be added to its capital base during the access arrangement period.[70]

ActewAGL does not propose any surcharges[71] for the access arrangement period as it does not expect any non–conforming capital expenditure.[72]

ActewAGL does not maintain a speculative capital expenditure account[73] and does not expect to incur any speculative capital expenditure in the access arrangement period.[74]

ActewAGL does not propose to dispose of any assets during the access arrangement period. ActewAGL submits that when meters become defective they are scrapped, but this does not provide ActewAGL with a cash disposal. ActewAGL submits that these meters have insignificant value and proposes that any residual value be accounted for in depreciation of the capital base.[75]

3.3.2.1 Forecast capital expenditure

ActewAGL proposes conforming capital expenditure of $214.4 million ($2008–09) for the access arrangement period.[76] This includes a $134 million project—the Hoskinstown to Fyshwick loop (HFL)—for security of gas supply to the ACT region

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70 ActewAGL, *Access arrangement information*, June 2009, pp. 127–128.

71 NGR, r. 83. Non conforming capital expenditure may be recovered by a surcharge, which is a charge approved by the AER in addition to a reference tariff.

72 ActewAGL, *Access arrangement information*, June 2009, pp. 128–129.

73 NGR, r. 84. Non-conforming capital expenditure may be added to a notional fund called a speculative capital expenditure account. It may be later withdrawn from the fund and added to the capital base if the type or volume of services changes so that it becomes conforming capital expenditure.

74 ActewAGL, *Access arrangement information*, June 2009, p. 129.

75 ActewAGL, *Access arrangement information*, June 2009, p. 128.

76 ActewAGL, *Access arrangement information*, p. 107.

as well as stay in business (asset renewal and upgrade) capital expenditure. ActewAGL also proposes $22 million for other stay in business capital expenditure.[77]

ActewAGL proposes $35 million of market expansion capital expenditure, which incorporates major developments in Molonglo, North Weston, Swinger Hill and Googong.[78] The unit rates ActewAGL proposes for service connection, which ActewAGL uses for its market expansion capital expenditure forecasts, are outlined in a confidential attachment to its access arrangement information.[79]

ActewAGL proposes $22 million of capacity development capital expenditure, which incorporates four major capital expenditure projects. In particular, ActewAGL proposes $13 million for a primary mains extension and a primary regulating station (PRS) in Tuggeranong.[80]

ActewAGL proposes non-system capital expenditure of approximately $1.2 million. This capital expenditure relates to an upgrade of ActewAGL's GIS.[81]

ActewAGL's proposed capital expenditure for the access arrangement period is set out in Table 3.4.

Table 3.4: Proposed capital expenditure ($m, real, 2008–09)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
Market expansion	8.8	7.1	7.1	6.2	5.9	35.1
Capacity development	4.8	13.6	0.7	0.3	2.1	21.6
Stay in business	10.3	52.5	87.0	3.8	3.0	156.6
Non-system (IT)	0.3	0.3	0.5	0.1	0.0	1.2
Total proposed capital expenditure	24.2	73.6	95.2	10.4	11.0	214.4

Source: ActewAGL, *Access arrangement information*, June 2009, p. 106.

Hoskinstown to Fyshwick loop project

ActewAGL proposes to address security of supply issues for the ACT region with the HFL capital expenditure project. The HFL project was chosen by the ActewAGL Board out of four different capital expenditure projects presented to it.[82]

ActewAGL submits that the HFL project is required to maintain the integrity of services and is justified under r. 79(2)(c)(ii) of the NGR.[83]

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77 ActewAGL, *Access arrangement information*, June 2009, p. 118.

78 ActewAGL, *Access arrangement information*, June 2009, p. 112.

79 ActewAGL, *Access arrangement information*, June 2009, attachment K (confidential).

80 ActewAGL, *Access arrangement information*, June 2009, p. 115.

81 ActewAGL, *Access arrangement information*, June 2009, p. 126.

82 ActewAGL, *Access arrangement information*, June 2009, pp. 119–123.

ActewAGL states that in the earlier access arrangement period the security of gas supply to the ACT and Queanbeyan was threatened by upstream supply disruptions and winter peak demand load. ActewAGL submits that the HFL will increase the ability of the ACT network to withstand any upstream supply interruption by increasing gas supply in the network from 1 hour to 16 hours.[84]

ActewAGL states that Jemena Asset Management's (JAM) feasibility study identified two options for the HFL:

- Option A: 21km of 42 inch pipe, provides 88 TJ of storage for around $130 million, or a price/TJ of $1.5 million.
- Option B: 16.5km of 42 inch pipe, provides 66 TJ of storage for around $95 million, or a price/TJ of $1.4 million.[85]

ActewAGL submits that option A provides greater security of supply.[86]

3.3.2.2 Adjustment of the capital base for inflation

ActewAGL proposes to index the projected capital base using the forecast rate of inflation used to calculate the nominal weighted average cost of capital.[87]

3.3.3 Opening capital base for the next access arrangement period

ActewAGL proposes to adopt a depreciation schedule calculated using forecast capital expenditure for rolling forward the capital base for the access arrangement period commencing on 1 July 2015.[88]

3.3.4 Capital redundancy policy

ActewAGL proposes that the AER may reduce ActewAGL's capital base by an amount representing:

- any assets that have ceased to contribute to the delivery of services
- any assets that have been transferred from ActewAGL, and
- any assets that have decreased in value because of a decline in sales volumes.[89]

3.4 Consultant's report

The AER engaged Wilson Cook and Co (Wilson Cook), engineering and management consultants, to review ActewAGL's proposed capital expenditure. The review

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83 ActewAGL, *Access arrangement information*, June 2009, p. 123.

84 ActewAGL, *Access arrangement information*, June 2009, p. 122.

85 ActewAGL, *Access arrangement information*, June 2009, p. 123.

86 ActewAGL, *Access arrangement information*, June 2009, p. 123.

87 ActewAGL, *Access arrangement information*, June 2009, p. 143.

88 ActewAGL, *Access arrangement proposal*, June 2009, p. 23.

89 ActewAGL, *Access arrangement proposal*, June 2009, pp. 21–22.

includes an assessment of capital expenditure for the earlier access arrangement period as well as forecast capital expenditure for the access arrangement period.

Capital expenditure in the earlier access arrangement period

The Wilson Cook Report examines the variations over the earlier access arrangement period between actual and forecast capital expenditure. Wilson Cook focuses on proposed capital expenditure in the final year of the earlier access arrangement, 2009–2010, because estimated capital expenditure in this year is significantly higher than the forecasts approved by the ICRC.[90] ActewAGL outlines that the higher than forecast capital expenditure for the final year of the earlier access arrangement period is attributed to the deferral and change in scope of certain projects, and new projects related to pigging programmes which were not forecast.[91] The Wilson Cook Report concludes that the main components of these programmes were reviewed and Wilson Cook was satisfied that the proposed capital expenditure scope and timing of the capital expenditure was appropriate.[92]

Forecast capital expenditure in the access arrangement period

The Wilson Cook Report review of the proposed capacity development expenditure, of $21.6 million for the access arrangement period, which is substantially higher than the capacity development expenditure of $13.7 million for the earlier access arrangement period. The major component of this forecast capital expenditure is the Tuggeranong primary mains and PRS project totalling $13.3 million in 2010–11, which was deferred from the earlier access arrangement period. The Wilson Cook Report notes that the project was deferred from the earlier access arrangement period because of lower demand growth.[93] The Wilson Cook Report also notes that the secondary network in the Tuggeranong area is approaching its design minimum pressure and work is required to meet projected load growth.[94] Following a review of the engineering aspects of the project, Wilson Cook considers that the project is a conventional solution to address the increasing demand in the area and that the cost estimates for the project are reasonable.[95]

The Wilson Cook Report review of the forecast stay in business capital expenditure, which excluding the HFL, amounts to $22.3 million in the access arrangement period, compared with capital expenditure of $9.0 million in the earlier access arrangement period. The Wilson Cook Report assesses each of the projects comprising the forecast capital expenditure and in each case considers the forecast capital expenditure is reasonable.[96]

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90 Wilson Cook, *Review of expenditure of ACT and NSW gas DNSPs: ActewAGL Distribution's network*, 29 October 2009, p. 5 (Wilson Cook Report).

91 ActewAGL, *Access arrangement information*, June 2009, p. 103.

92 Wilson Cook Report, 29 October 2009, pp. 6–7.

93 Wilson Cook Report, 29 October 2009, p. 7.

94 Wilson Cook Report, 29 October 2009, p. 7.

95 Wilson Cook Report, 29 October 2009, p. 7.

96 Wilson Cook Report, 29 October 2009, pp. 13–14.

Hoskinstown to Fyshwick loop

At a forecast cost of $134 million, the HFL is the largest project forecast by ActewAGL for the access arrangement period. [97]

In undertaking its assessment, the Wilson Cook Report concludes that ActewAGL does not provide sufficient justification for the HFL project. In reaching this conclusion, the Wilson Cook Report outlines that:

- the HFL would provide a considerable amount of storage (88 TJ) in relation to the winter peak of around 70 TJ per day. However, this and the evaluation criterion used, cost per TJ of storage, begs the question of what contingency ought to be provided against[98]

- ActewAGL provides no economic evaluation of the HFL in terms of assessing the costs of the project against the benefits derived from risk reduction. In order to properly assess these costs and benefits, ActewAGL would need to consider the cost of the worst credible contingency which would include consideration of the expected duration of the event, quantification of the risks involved and the extent to which they will be mitigated or removed by the project. The Wilson Cook Report states that selection of a particular project on the basis of the costs per TJ of capacity gained in the network is not sufficient justification to support a project without considering these other relevant factors[99]

- the increase in the level of storage delivered by the HFL project might be justified if the contingency to be provided for is a simultaneous disruption on both the Moomba to Sydney Pipeline (MSP) and the Eastern Gas Pipeline (EGP). However, if the contingency to be provided for is a disruption on one or the other pipeline, the required level of storage reduces significantly, to be somewhere between 5 TJ and 15 TJ rather than 88 TJ (the capacity of the HFL). This would mean that other options, such as removing the constraint on the Dalton to Walton pipeline, should be considered[100]

- steps are already being taken to increase throughput at Hoskinstown and other measures are proposed to allow a further increase in throughput or to provide against contingencies, and[101]

- storage to address a bulk gas supply shortage need not necessarily be within ActewAGL's distribution network, although ActewAGL has taken the view that the storage ought to be within its control.[102]

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97 ActewAGL, *Access arrangement information*, June 2009, p. 118.

98 Wilson Cook Report, 29 October 2009, p. 9–10.

99 Wilson Cook Report, 29 October 2009, pp. 10–13.

100 Wilson Cook Report, 29 October 2009, pp. 10–11.

101 Wilson Cook Report, 29 October 2009, p. 11.

102 Wilson Cook Report, 29 October 2009, p. 11.

Unit rates

To provide an independent assessment of the rates underlying the forecast capital expenditure ActewAGL engaged Parson Brinckerhoff (PB), who found the rates to be acceptable.[103] Wilson Cook reviews the PB's report and considers that the PB's methodology and findings can be relied on without the need for Wilson Cook to recalculate or reassess them.[104]

3.5 Submissions

The AER received one submission within the consultation period, which ended on 11 September 2009, from the APA Group. A further late submission was received on 18 September 2009 from SoftLaw Community Projects (SCP).

Under s. 65(b) of the NGL the AER may but does not need to consider submissions received after the consultation period has ended.

Both submissions focus on the proposed HFL project.

The APA Group submits that more cost effective solutions, such as the installation of compressors at Young and on the Dalton to Watson lateral, are feasible. The APA Group further submits that suitable arrangements could be made to provide ActewAGL with comfort that the capacity provided by the compressors would be made available to provide the desired level of security of supply for the ACT and Queanbeyan.[105]

The APA Group outlines that such a solution could improve the security of supply from a gas production prospective, as the MSP can receive, and therefore store, gas produced in South Australia, Queensland and Victoria. In contrast, the APA Group submits that the HFL could only receive and store gas from Victoria.[106]

The APA Group notes that it is unclear whether gas stored in the HFL could be delivered back into the EGP or would displace service requirements on the EGP.[107]

The APA Group notes that it has already commenced preliminary discussions with ActewAGL regarding the various potential storage options utilising the MSP.[108]

The late submission from the SCP supports the proposed capital expenditure for market expansion and capacity development, but opposes the HFL.[109]

The SCP considers that ActewAGL is proposing a very expensive supply side solution to address an infrequent winter peak problem. SCP submits that other solutions should be investigated, such as:

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103 Wilson Cook Report, 29 October 2009, p. 14.

104 Wilson Cook Report, 29 October 2009, p. 14.

105 APA Group, *Submission*, 11 September 2009, p. 2.

106 APA Group, *Submission*, 11 September 2009, p. 2.

107 APA Group, *Submission*, 11 September 2009, p. 2.

108 APA Group, *Submission*, 11 September 2009, p. 2.

109 SCP, *Submission*, 17 September 2009, p. 1.

- demand management by arrangement with industry for load shedding and by marginal substitution from gas heating to electricity heating in the short time periods involved

- capacity expansion through additional compressors, and

- expenditure of a lesser amount than $134 million on thermal improvements in all domestic residences in Canberra that are heated by gas.[110]

3.6 AER's analysis and considerations

3.6.1 Opening capital base

3.6.1.1 Capital expenditure

The AER is required to undertake an ex-post assessment of the capital expenditure in the earlier access arrangement period that ActewAGL proposes to add to the opening capital base.

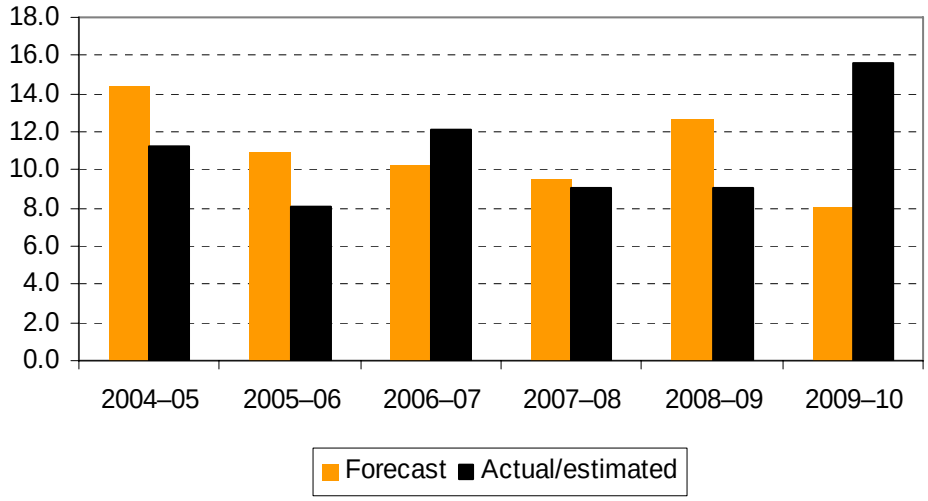
Under clause 3(2) of schedule 1 of the NGR, any agreement by the ICRC under s. 8.21 of the Code that actual or forecast new facilities investment[111] in the earlier access arrangement met the requirements of s. 8.16(a) of the Code, would be taken to be a decision of the AER under r. 79 of the NGR (in the case of actual capital expenditure), or a determination under r. 80 of the NGR (in the case of forecast capital expenditure). The AER is not aware that these circumstances are relevant to ActewAGL's proposal and ActewAGL has not made any submissions about this issue. Therefore, the AER's consideration of ActewAGL's capital expenditure in the earlier access arrangement period is assessed under r. 79 of the NGR.

While the total capital expenditure that ActewAGL proposes for the earlier access arrangement period is similar to what was approved by the ICRC, it is significantly different to annual amounts approved, as shown in Figure 3.2.

110 SCP, *Submission*, 17 September 2009, pp. 1–2.

111 The Code used the term 'new facilities investment', whereas the NGR refers to 'capital expenditure'.

Figure 3.2: Comparison of forecast and actual or estimated capital expenditure 2005 to 2010 ($m, real, 2009–10)



Source: ActewAGL, *Access arrangement information*, June 2009, p. 97.

In engaging Wilson Cook to review capital expenditure in the earlier access arrangement period, the AER sought Wilson Cook's views about the significantly higher revised estimate of $15.6 million for 2009–2010 than the forecast of $8.1 million approved by the ICRC. Most of the increased estimate is attributed to capital expenditure on market expenditure of $1.2 million, capacity development expenditure of $2.6 million and stay in business expenditure of $2.8 million.[112]

ActewAGL submits that:

- the $1.2 million market expansion capital expenditure was the result of a higher than expected level of mains construction in new residential areas and estates[113]
- the $2.6 million capacity development capital expenditure was due to the deferral of the Queanbeyan and Jerrabomberra interconnect capacity development project, the timing of which was dependent on the development of a new road[114], and
- the $2.8 million stay in business capital expenditure was a result of new projects to provide pigging facilities and upgrade trunk receiving stations.[115]

Wilson Cook reviews each component of ActewAGL's proposed capital expenditure in 2009–2010 and considers that ActewAGL's proposed capital expenditure is reasonable.

The AER notes that while ActewAGL provides justification for its proposed capital expenditure it has not assessed the expenditure against criteria contained in r. 79 of

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112 ActewAGL, *Access arrangement information*, June 2009, p. 97.

113 ActewAGL, *Access arrangement information*, June 2009, p. 99.

114 ActewAGL, *Access arrangement information*, June 2009, p. 102.

115 ActewAGL, *Access arrangement information*, June 2009, pp. 103–104.

the NGR. Nevertheless, in light of the arguments put forward by ActewAGL and Wilson Cook's review of ActewAGL's proposal, the AER is satisfied that ActewAGL's proposed capital expenditure for the earlier access arrangement period is consistent with r. 79 of the NGR. In reaching this conclusion the AER considers that:

- the market expansion capital expenditure incurred in the earlier access arrangement period overall was not significantly different to that approved by the ICRC

- the market expansion capital expenditure was necessary to cater for the costs of new customer connections and corresponding demand for pipeline services during the earlier access arrangement period. Therefore, the capital expenditure is justified to maintain ActewAGL's capacity to meet levels of demand for services existing at the time the capital expenditure is incurred[116]

- the capital development expenditure was necessary to provide additional network capacity to support load growth on the network and ensure security of supply to customers. Therefore, the capital expenditure is justified to maintain ActewAGL's demand for services at the time the capital expenditure is incurred, and[117]

- the stay-in-business capital expenditure, for renewals and upgrades of the network, was necessary to ensure reliability and security of the network. Therefore, the capital expenditure is justified to maintain and improve the safety of services, or to maintain the integrity of services, or to comply with a regulatory obligation or requirement.[118]

Regulatory costs

ActewAGL proposed capital expenditure for the earlier access arrangement includes regulatory costs of $1.45 million in preparation of the access arrangement proposal for the 2010–2015 period.[119] While these costs are incurred in the earlier access arrangement, they were not forecast and therefore not recovered through tariffs and forecast revenue in the earlier access arrangement period. This approach is different to ActewAGL's approach for the access arrangement period in which regulatory costs are treated as operating expenditure.[120]

Capital expenditure is defined in the NGR as costs and expenditure of a capital nature incurred to provide, or in providing, pipeline services.[121] The AER does not consider that the regulatory costs incurred by ActewAGL in the earlier access arrangement period represent expenditure of a capital nature. The AER considers that the proposed regulatory costs do not represent conforming capital expenditure under r. 79 for inclusion in the capital base under r. 77(2)(b) of the NGR. The AER notes that for the

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116 NGR, r. 79(2)(c)(iv).

117 NGR, r. 79(2)(c)(iv).

118 NGR, r. 79(2)(c)(i)–(iii).

119 ActewAGL, *Access arrangement information*, June 2009, p. 104.

120 ActewAGL, *Access arrangement information*, June 2009, p. 171.

121 NGR, r. 69.

access arrangement period ActewAGL classifies these costs as operating expenditure.[122] The AER agrees with ActewAGL that regulatory costs are operating expenditure.[123] Therefore, the AER requires ActewAGL to amend its access arrangement proposal to remove its regulatory costs of $1.45 million incurred from its proposed capital expenditure in the earlier access arrangement period. ActewAGL must amend its access arrangement as outlined in amendment 3.1.

3.6.1.2 Depreciation

There are two considerations relevant for depreciation in the earlier access arrangement period:

- any adjustments for differences between actual and forecast capital expenditure before the earlier access arrangement period, and[124]
- adjustments to the capital base for depreciation in the earlier access arrangement period.[125]

Adjustments for capital expenditure before the earlier access arrangement period

As required by r. 77(2)(a) of the NGR, ActewAGL has adjusted its opening capital base at the commencement of the earlier access arrangement period to take account of the difference between estimated and actual capital expenditure included in that opening capital base (as at 1 July 2004).[126] In addition, ActewAGL proposes an adjustment to the opening capital base of $0.1 million to account for the return on the difference between actual and estimated capital expenditure in 2003–04. ActewAGL confirms that a more accurate adjustment is $14 276.[127] The AER considers that this value represents the best forecast or estimate possible in the circumstances[128] and requires ActewAGL to adjust the opening capital base to reflect this more accurate adjustment. ActewAGL is required to make the amendment as outlined in amendment 3.2.

Depreciation in the earlier access arrangement period

In establishing the opening capital base for the earlier access arrangement period, for the purposes of r. 77(2)(d) of the NGR, ActewAGL proposes to calculate depreciation based on actual capital expenditure instead of forecast capital expenditure.[129] ActewAGL submits this is consistent with the approach approved by the ICRC for the 2000–04 access arrangement period.[130] Clause 5(1)(d) of Schedule 1 of the NGR requires the AER to take into account the set of depreciation schedules that constitute

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122 ActewAGL, *Access arrangement information*, June 2009, p. 171.

123 ActewAGL, *Access arrangement information*, June 2009, p. 171.

124 NGR, r. 77(2)(a).

125 NGR, r. 77(2)(d).

126 ActewAGL, *Access arrangement information*, June 2009, p. 134.

127 ActewAGL, *Email to the AER*, 7 August 2009, attachment: *ActewAGL Responses to 20090724 AER questions*, p. 1 (confidential).

128 NGR, r. 74(2)(b).

129 Revenues for the earlier access arrangement period were based on forecast capital expenditure.

130 ActewAGL, *Access arrangement information*, June 2009, p. 137.

the depreciation schedule for the transitional access arrangement under section 8.32 of the Code.

The AER considers that ActewAGL's approach using actual depreciation is acceptable for establishing the opening capital base. In reaching this conclusion the AER notes that:

- the Code does not require an access arrangement to specify whether depreciation is to be based on actual or forecast capital expenditure
- as ActewAGL submits, the access arrangement for the earlier access arrangement period contains no provision governing the manner by which depreciation is to be calculated to establish the opening capital base for the access arrangement period, and[131]
- ActewAGL's preference to use actual capital expenditure rather than forecast is consistent with its treatment of depreciation in the earlier access arrangement.

The AER has reviewed the estimated depreciation for the earlier access arrangement period. As required by clause 5(1)(d) of Schedule 1 of the NGR, this has been estimated in accordance with the relevant provisions of the access arrangement. The AER approves ActewAGL's proposal to calculate depreciation based on actual capital expenditure in establishing the opening capital base under r. 77(2)(d) of the NGR.

3.6.1.3 Adjustment to the capital base for inflation

ActewAGL proposes that the adjustment to the capital base for inflation be calculated by applying the year-on-year change in the CPI for the June quarter. The AER does not consider this method to be appropriate. This is because this method is not consistent with the method used by ActewAGL in its tariff variation mechanism. The AER considers that the method used by ActewAGL in its tariff variation mechanism should be applied to adjust the capital base for inflation. This method applies the change in average CPI of the four quarters of one year to the four quarters of the previous. For example, for 2009–10, this method would apply the change in average CPI of the four quarters of the 2009 calendar year to the four quarters of the 2008 calendar year.

For the purposes of the draft decision, this method requires the use of forecast CPI for the September and December quarters of 2009. The AER considers that, consistent with the approach used to calculate the inflation rate for the WACC, the RBA forecast for the December quarter of 2009 should be used to forecast the CPI for the last two quarters of 2009.[132] The AER notes that actual CPI data will be available for the last two quarters of 2009 and so the rate of inflation for 2009–10 in the final decision is likely to change.

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131 ActewAGL, *Access arrangement information*, June 2009, p. 136.

132 RBA, *Statement on Monetary Policy*, 7 August 2009, p. 75.

The AER considers that the inflation rates shown in Table 3.5 represent the best estimates or forecasts possible in the circumstances.[133]

Table 3.5: Inflation rates for adjusting the capital base (%)

	2005	2006	2007	2008	2009	2010
Inflation rates	2.34	2.67	3.54	2.33	4.35	1.82

Source: ABS, *6401–Consumer price index*, Australia, June 2009.

3.6.1.4 Summary on opening capital base

The AER has considered the components of ActewAGL's proposed opening capital base. The AER requires an amendment to capital expenditure to account for the removal of the regulatory costs, an amendment to ActewAGL's proposed adjustment to the capital base for inflation, and an adjustment for the return on the difference between actual and forecast capital expenditure in 2003–04. As a result, the AER does not consider that ActewAGL's proposed opening capital base is consistent with r. 77(2). ActewAGL is required to amend its access arrangement as outlined in amendment 3.2.

3.6.2 Projected capital base

3.6.2.1 Forecast capital expenditure

ActewAGL's proposed capital expenditure of $214 million for the access arrangement period is significantly higher than the capital expenditure of $66 million incurred in the earlier access arrangement period. This is mainly due to the costs of the proposed HFL. Even without taking into consideration the forecast capital expenditure of the HFL, forecast capital expenditure is in the order of $80 million or a 21 per cent increase in nominal terms over the earlier access arrangement period. In relation to the capital expenditure, ActewAGL's main categories of forecast capital expenditure are market expansion, capacity development and stay in business. A further $1.18 million is proposed by ActewAGL to be spent on IT systems in the access arrangement period.[134] The main components of the forecast capital expenditure are discussed below.

Market expansion capital expenditure

Market expansion capital expenditure is undertaken to meet growth in customer numbers and connections. The main driver of market expansion capital expenditure is new homes and is related to areas of new development. Market expansion capital includes the cost of mains extensions, services (connection to premises) and meters for new customers.[135] ActewAGL's process for determining forecast market expansion capital expenditure involves forecasting the number of new connections by type and applying a predetermined unit rate to each type of connection.[136]

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133 NGR, r. 74(2)(b).

134 ActewAGL, *Access arrangement information*, June 2009, p. 106.

135 ActewAGL, *Access arrangement information*, June 2009, p. 99.

136 ActewAGL, *Access arrangement information*, June 2009, p. 110.

ActewAGL's proposed total capital expenditure for market expansion of $35 million is less than the $38 million incurred in the earlier access arrangement period. Year-on-year expenditure is forecast to decrease from $8.8 million in 2010–11 to $5.9 million in 2014–15.[137]

ActewAGL submits that its proposed market expansion capital expenditure is relevant to r.79(2)(b) of the NGR, which states that the present value of the expected incremental revenue to be generated as a result of the expenditure must exceed the present value of the capital expenditure for it to be justifiable.[138]

Although the Wilson Cook Report did not review the level of proposed market expansion capital expenditure it reviewed the underlying unit rates and considers them reasonable.[139] The AER considers that ActewAGL's proposed market expansion capital expenditure is necessary to meet new connections in new residential and other development areas in the ACT and Queanbeyan.

Capacity development capital expenditure

Capacity development capital expenditure provides for additional network capacity to support projected load growth on the network. It also ensures reliable supply to existing and new customers. Capacity development projects include extensions, interconnections and the installation of new regulators.[140] The key drivers of forecast capacity development capital expenditure are demand growth in existing suburbs, new residential areas and infill developments in more well established suburbs requiring network augmentations to meet new and growing capacity requirements.[141]

ActewAGL's proposed capacity development capital expenditure of $21.6 million is 58 per cent higher than the capital expenditure of $13.7 million in the earlier access arrangement period.

ActewAGL submits that capacity development capital expenditure is relevant to r. 79(2)(c)(iv) of the NGR, which states that capital expenditure is justified if it is necessary to maintain the service provider's capacity to meet levels of demand for services existing at the time the capital expenditure is incurred.[142]

Of the $21.6 million forecast capital expenditure, $13.6 million is planned to be spent in 2011–12.[143] This is attributed to one project, the extension of the Tuggeranong primary mains and a new PRS totalling $13.1 million.[144] The new PRS includes a duty run and standby run to maintain supply in the event of a failure of either the duty run or the PRS at Phillip. A 5.7 km primary main extension is proposed to supply gas to the new PRS at Tuggeranong. The project is designed to support capacity growth

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137 ActewAGL, *Access arrangement information*, June 2009, p. 112.

138 ActewAGL, *Access arrangement information*, June 2009, p. 112.

139 Wilson Cook Report, 29 October 2009, p. 14.

140 ActewAGL, *Access arrangement information*, June 2009, p. 100.

141 ActewAGL, *Access arrangement information*, June 2009, p. 114.

142 ActewAGL, *Access arrangement information*, June 2009, p. 112.

143 ActewAGL, *Access arrangement information*, June 2009, p. 114.

144 ActewAGL, *Access arrangement information*, June 2009, p. 115.

and to ensure continuity of supply in the Tuggeranong district.[145] Given that forecast capital expenditure in 2011–12 is significantly higher than other years of the access arrangement period, the AER sought Wilson Cook's advice about the reasonableness of the capital expenditure. The Wilson Cook Report concludes that the capital expenditure is reasonable.[146] This project was deferred from the earlier access arrangement period.[147] The AER notes ActewAGL's submission that the timing of the project was originally based on a forecast annual growth in demand of 8 per cent in the Tuggeranong area, but this was later revised to 2 per cent per annum.[148]

The AER considers that ActewAGL's proposed capacity development capital expenditure is necessary to support projected load growth on the network, particularly in the Tuggeranong district, and to ensure reliability of supply to existing customers.

Stay in business capital expenditure

Stay in business capital expenditure relates to renewals and upgrades of capital and is undertaken to ensure the reliability and security of the network.[149] The main drivers are asset condition (largely driven by age) and compliance requirements relating to safety, reliability and asset protection.[150]

ActewAGL's forecast total stay in business capital expenditure is $156.6 million. This includes the proposed cost of the HFL of $134.3 million and other stay in business capital expenditure totalling $22.3 million.[151] The AER notes that even excluding the cost of the HFL, the stay in business capital expenditure program is 148 per cent higher than the stay in business capital expenditure of $9.0 million in the earlier access arrangement.

ActewAGL submits that stay in business capital expenditure is relevant to r. 79(2)(c)(i)–(iii) of the NGR, which state that capital expenditure is justified if it is necessary to maintain and improve the safety of services, to maintain the integrity of services, or to comply with a regulatory obligation or requirement.[152]

Other stay in business capital expenditure

Except for the HFL project, most of the stay in business capital expenditure is comprised of a number of small projects, of which a meter replacement program is the largest accounting for $11 million of the total forecast of other stay in business capital expenditure of $22.3 million. Wilson Cook's assessment of these projects is that the capital expenditure is reasonable.[153]

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145 ActewAGL, *Access arrangement information*, June 2009, p. 114.

146 Wilson Cook Report, 29 October 2009, p. 7.

147 ActewAGL, *Access arrangement information*, June 2009, p. 98.

148 ActewAGL, *Access arrangement information*, June 2009, p. 115.

149 ActewAGL, *Access arrangement information*, June 2009, p. 102.

150 ActewAGL, *Access arrangement information*, June 2009, p. 116.

151 ActewAGL, *Access arrangement information*, June 2009, p. 118.

152 ActewAGL, *Access arrangement information*, June 2009, p. 118.

153 Wilson Cook Report, 29 October 2009, pp. 13–14.

Hoskinstown to Fyshwick loop capital expenditure

As outlined, the forecast capital expenditure of $134 million is 63 per cent of ActewAGL's forecast total capital expenditure of $214.4 million for the access arrangement period. The proposed HFL project is expected to provide additional storage capacity of 88 TJ of gas.[154] The AER notes that this represents 126 per cent of daily winter demand of 70 TJ, which ActewAGL submits is the winter peak in recent years,[155] and about 1257 per cent of 7 TJ a day, which ActewAGL submits is the summer peak.[156]

The HFL is the first of two stages proposed by ActewAGL to improve security of supply for the ACT, Palerang and Queanbeyan gas distribution network. The second stage consists of looping of the Canberra primary main, which will primarily support security of supply residents in the ACT and bring new gas supplies to new residential developments proposed in the north and western areas of Canberra. ActewAGL envisages that stage two will be developed over the next five to 10 years. Forecast capital expenditure for stage two of this project is not included for consideration in the access arrangement period.[157]

a) Upstream gas supply

To demonstrate that security of supply is at risk in the ACT region, ActewAGL refers to a number of incidents in the past when gas supply was disrupted. ActewAGL submits that in 2006, 2007 and 2008, its gas distribution network has experienced significant threats to security of supply of gas. ActewAGL submits that these have been due to operational difficulties experienced at the Moomba gas field and with the main transmission pipelines supplying the network, coupled with peak winter demand in the ACT region and under nominations by retailers (demand being greater than supply).[158]

ActewAGL submits that, as its gas distribution network is mainly comprised of domestic and small commercial customers, options for curtailing demand in the event of a disruption to gas supply are limited and the process of disconnection and reconnection of a large number of domestic and commercial uses would be costly. ActewAGL submits that contract load is only 2 TJ a day and is less than 3 per cent of total winter peak demand.[159]

In considering options to address security of supply issues, ActewAGL dismissed options that are not within its direct control. For this reason ActewAGL rejects options such as the installation of a compressor on the Dalton to Walton lateral, which ActewAGL notes would be owned by the APA Group (the owner of the MSP) and therefore not within ActewAGL's control.[160]

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154 ActewAGL, *Access arrangement information*, June 2009 p. 108.

155 ActewAGL, *Access arrangement information*, June 2009, p. 120.

156 ActewAGL, *Access arrangement information*, June 2009, p. 120.

157 ActewAGL, *Access arrangement information*, June 2009, p. 123.

158 ActewAGL, *Access arrangement information*, June 2009, pp. 119–121.

159 ActewAGL, *Access arrangement information*, June 2009, pp. 120–121.

160 ActewAGL, *Access arrangement information*, June 2009, p. 122.

The risk that ActewAGL is attempting to mitigate relates not to the integrity of its gas network, but to risks associated with the upstream supply of gas. This raises the issue of whether significant capital expenditure should be expended on ActewAGL's network to address upstream supply issues. In this regard the AER notes that ActewAGL has only considered options within its control[161] whereas options upstream of ActewAGL's gas network may be more appropriate to address upstream supply issues.

As outlined by ActewAGL, one of the key issues with security of supply in recent years to the ACT market were operational difficulties at the Moomba gas field.[162] In respect to the security of supply, disruptions to gas supply and production from Moomba occurred in 2007 and 2008.[163] The supply risk has been mitigated by the commissioning of the link between Epic Energy's South West Queensland Pipeline and the Moomba to Adelaide Pipeline System and the MSP— the Queensland South Australia and NSW Link (the QSN Link). Gas commenced to flow on the QSN Link in January 2009 and supplies gas to the ACT, South Australian and New South Wales gas markets from Queensland's coal seam methane fields.[164] This provides an additional security of supply of gas to the ACT by providing an alternative supply of gas in times of restricted supply of gas from Moomba.

The AER considers that the commissioning of the QSN Link has significantly mitigated the risk of supply of gas from the MSP, which is a significant source of gas to the ACT, Palerang and Queanbeyan gas distribution network.

b) Risk mitigation strategies and improved information

Another reason for supply difficulties has been unexpected winter weather conditions that resulted in higher actual demand than forecast.[165] This resulted in short supply in 2007.[166] ActewAGL has recognised this forecasting risk and in order to mitigate shipper forecasting error, has introduced a comprehensive 'nominations tool'.[167]

In addition to the action taken by ActewAGL to improve nominations from shippers, the introduction of the National Gas Services Bulletin Board (BB) has led to the provision of market information that was not previously available. This information includes updated daily demands, a three-day outlook with respect to production capacity and pipeline capacity, and potentially, in the event of significant outages or system incidents, a flag indicating likely interruption of customer supplies. Moreover, the BB has a facility specifically developed to support the National Emergency Response Advisory Committee and jurisdictions in the event of major gas emergencies. Under this facility the BB operator will gather information from the relevant BB participants and jurisdictions. All registered BB participants would have

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161 ActewAGL, *Access arrangement information*, June 2009, p. 122.

162 ActewAGL, *Access arrangement information*, June 2009, p. 119.

163 ActewAGL, *Meeting with the AER and Wilson Cook*, 13 August 2009.

164 Epic Energy, *Gas flows on QSN Link pipeline*, viewed 21 October 2009, <http://www.epicenergy.com.au/news.php?newsid=40>.

165 ActewAGL, *Access arrangement information*, June 2009, p. 119.

166 ActewAGL, *Access arrangement information*, June 2009, p. 119.

167 ActewAGL, *Meeting with the AER and Wilson Cook*, 13 August 2009.

access to this information.[168] The AER considers that the availability of BB information, coupled with ActewAGL's own actions, should assist it to better manage nominations from shippers in the access arrangement period.

c) Adequacy of ActewAGL's business case

The AER agrees with Wilson Cook's conclusion that ActewAGL has not provided an assessment of the benefits of risk reduction against the costs of the HFL.[169] This would involve quantification of the risks involved, the expected duration of any interruption to supply, and the costs of load shedding. The AER also agrees with Wilson Cook that ActewAGL has not adequately demonstrated what contingency is being provided for and what are the risks that need to be mitigated, and whether capital expenditure on ActewAGL's gas network is the most appropriate means to address those risks.

The AER notes the APA Group's submission that there may be more cost effective solutions to provide security of supply. The APA Group submits that the most obvious alternative to the HFL is enhanced utilisation of the MSP, which could be achieved through the installation of additional compressors at Young on the MSP mainline and on the Dalton to Watson lateral. [170]

Further, the APA Group submits that suitable arrangements could be developed to provide ActewAGL with comfort that the capacity provided by the compressors would be made available to provide the required level of security of supply for the ACT region. The AER notes that the APA Group has commenced preliminary discussions with ActewAGL regarding the various potential storage options utilising the MSP.[171]

The AER also notes the SCP submission that simple capacity expansion can be achieved through the installation of additional compressors.[172]

Notwithstanding that these options may be outside of ActewAGL's control, the AER considers that a detailed analysis would include an assessment of the costs and benefits of these options and assessed against the costs and benefits of the HFL.

d) Nature of services

In addition to the matters above, the AER also has concerns about the HFL's function in the delivery of pipeline services. As outlined above, the HFL is expected to provide storage of 126 per cent of daily gas requirements at winter peak of 70 TJ a day, and 1257 per cent of summer peak of 7 TJ a day. ActewAGL describes the primary

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168 National Gas Market Bulletin Board, viewed 28 September 2009, <http://www.gasbb.com.au/aboutus.aspx>.

169 Wilson Cook Report, 29 October 2009, pp. 11–13.

170 APA Group, *Submission*, 11 September 2009, p. 2.

171 APA Group, *Submission*, 11 September 2009, p. 2.

172 SCP, *Submission*, 17 September 2009, p. 2.

function of the proposed HFL as providing contingency supply to the ACT in the event of a supply imbalance or shortage upstream of the network.[173]

The HFL would be used as a storage facility to supply (sell) gas to the ACT region at times of imbalance or shortage of upstream gas supply. The AER understands the gas in the HFL would be owned by ActewAGL and replenished through balancing arrangements with users. [174]

As the HFL would be used as a storage facility and a source of gas supply, this raises the issue as to whether the storage of gas in the HFL for the purpose of sale of gas is a pipeline service. In defining natural gas services the NGL distinguishes between pipeline services and the supply of natural gas.[175] A pipeline service is defined in s. 2 of the NGL as a service provided by means of a pipeline, including a haulage service (such as firm haulage, interruptible haulage, spot haulage and backhaul) and a service providing for (or facilitating) the interconnection of pipelines, and a service ancillary to those services. However, a pipeline service does not include the production, sale or purchase of natural gas.[176]

Under r. 48, a full access arrangement must describe the pipeline services, and specify the reference services, the service provider proposes to offer by means of the pipeline. While the AER accepts that ActewAGL does maintain some supply for gas balancing purposes associated with the delivery of pipeline services, the AER considers it is difficult to justify that 126 per cent of the total maximum daily demand of 70 TJ in winter peak and 1257 per cent of maximum daily demand in summer of 7 TJ as a gas balancing function associated just with the delivery of pipeline services.

It follows that the cost of any facility for the storage and contingent supply of natural gas to be sold in times of constrained upstream supply can be considered capital expenditure that is not just relevant to the delivery of pipeline services, but may instead be also related to the sale of natural gas. If this is the case, then it may not be appropriate to include the forecast capital expenditure for the HFL in the capital base to determine reference tariffs.

The proposed HFL can be likened to TruEnergy's Underground Gas Storage Facility[177] and the APA Group's Dandenong Liquid Natural Gas (LNG) storage facility in Victoria.[178] Although these facilities are different physical assets to the HFL, they serve similar functions. As storage facilities they supply gas to the Victorian gas transmission system at peak times and during emergencies. Neither of these facilities are covered by the access arrangement for the Victorian gas transmission system.

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173 ActewAGL, *Access arrangement information*, June 2009, p. 122.

174 ActewAGL, *Meeting with the AER and Wilson Cook*, 13 August 2009.

175 NGL, s. 2.

176 NGL, s. 2.

177 TruEnergy, viewed 15 October 2009, <http://www.truenergy.com.au/Production/Iona/additional_information.xhtml>.

178 APA Group, viewed 15 October 2009, <http://www.apa.com.au/our-business/gas-transmission-and-distributino/victoria.aspx>.

The AER notes the APA Group's submission that it is unclear whether gas could be redirected from the HFL into the EGP. ActewAGL confirms that this is not the case.[179]

e) Summary

In summary, the AER does not consider that ActewAGL has demonstrated that the proposed capital expenditure for the HFL is expenditure that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services, consistent with r. 79(1)(a) of the NGR. Moreover, the AER has concerns about whether the proposed services to be provided by the HFL represents capital expenditure for the HFL that is related to the delivery of pipeline services.

Cost escalators

ActewAGL proposes to apply a number of real input cost escalators to input costs over the access arrangement period as a basis for determining its forecast capital expenditure.[180] ActewAGL uses a report written by Competition Economists Group (CEG)—the cost escalators report—as the basis for setting the rates at which the input categories will be escalated.[181] The relevant categories of input cost escalators of enterprise bargaining agreement (EBA) labour for the electricity, gas and water (EGW) sector, contract EGW labour, aluminium, steel and polyethylene are discussed below.

ActewAGL also proposes the use of real cost escalators based on calendar years, to account for the modelling assumption that capital expenditure is assumed to be made at the end of the financial year (or, in other words, falls in the middle of the calendar year).[182] In addition ActewAGL proposes an escalator to account for the effects of an emissions trading scheme on real prices for aluminium, steel and polyethylene.

Labour

The CEG cost escalators report separately forecasts changes in EBA labour and non-EBA labour costs.[183] The EBA labour cost forecasts rely on actual changes in staff costs where available and where actual data is not available they are based on an average of forecasts from BIS Shrapnel, Macromonitor and Econtech.[184] The only difference for non-EBA labour costs is that Econtech's forecasts are not used to calculate labour escalation rates.[185] The Macromonitor report was prepared in

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179 ActewAGL, E*mail to the AER*, 8 October 2009 (confidential).

180 ActewAGL, *Access arrangement information*, June 2009 p. 108.

181 ActewAGL, *Access arrangement information*, June 2009 p. 107.

182 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation Factors affecting expenditure forecasts: a report for Jemena Asset Management*, June 2009, pp. 13–14.

183 Non-EBA labour represents contract labour.

184 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation Factors affecting expenditure forecasts: a report for Jemena Asset Management*, June 2009, pp. 30–38.

185 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation Factors affecting expenditure forecasts: a report for Jemena Asset Management*, June 2009, pp. 30–38.

March 2009 while the BIS Shrapnel report was prepared in May 2009.[186] The CEG cost escalators approach also applies a specific method to transition between historical labour cost data and forecasts.[187]

The AER considers that since the publication of these reports, there have been significant changes in the macroeconomic outlook as well as fluctuations in some relevant economic data which may cause these earlier reports to no longer provide the best forecast possible in the circumstances, as required by r. 74(2)(b) of the NGR. Particularly, the AER considers that while an increase in employment in the electricity, gas and water sector was observed until March 2009, employment in that sector has declined since March. Also, wage data released for the June quarter of 2009 was weaker than expected, particularly for the electricity, gas and water sector.[188]

The AER engaged Access Economics to forecast labour costs for the electricity, gas and water sector of the Australian economy on a state by state basis. The methodology used by Access Economics forecasts wages using a formal macroeconomic model based on business cycle factors, productivity factors and relative wage factors.[189] This approach does not focus on institutional changes such as collective and individual agreements.[190] The AER considers that a more up–to–date forecast provides the best forecast possible in the circumstances, as set out in r. 74 of the NGR, as it is able to take into consideration recent developments in the macroeconomic outlook.

The AER considers that, given the significant changes in the macroeconomic outlook since May, particularly changes to employment in the electricity, gas and water sector, the most up–to–date forecast provides the best forecast possible in the circumstances, as required under r. 74(2)(b) of the NGR. Even though Access Economics uses industry sector data to forecast labour cost escalators, the AER considers the fact that these forecasts are able to take into account recent developments in the labour market more than offsets any limitation in not being able to forecast EBA and non-EBA cost escalators. The AER does not accept ActewAGL's proposed real cost escalators for labour costs (prepared in March and May 2009)[191] and requires ActewAGL to use the more up to date forecast from Access Economics, as shown in Table 3.6. The AER considers this to be the best forecast possible in the circumstances, as set out in r. 74 of the NGR. The AER does accept, however, the method in the CEG cost escalators report for transitioning between historical labour cost data and forecasts. The AER considers that this

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186 Macromonitor, *Forecasts of Cost Indicators –Electricity, Gas & Water Sector New South Wales*, March 2009 and BIS Shrapnel, *Wages Outlook for the Electricity, Gas and Water Sector in New South Wales*, May 2009.

187 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation Factors affecting expenditure forecasts: a report for Jemena Asset Management,* June 2009, pp. 30–38.

188 Access Economics, *Analysis of BIS Shrapnel methodology and forecasts*, 17 September 2009, p. 7 (confidential).

189 Access Economics, *Forecast growth in labour costs,* 16 September 2009. pp. 104–105.

190 Access Economics, *Forecast growth in labour costs,* 16 September 2009. p. 113.

191 Macromonitor, *Forecasts of Cost Indicators –Electricity, Gas & Water Sector New South Wales*, March 2009 and BIS Shrapnel, *Wages Outlook for the Electricity, Gas and Water Sector in New South Wales*, May 2009.

approach provides the best forecast possible in the circumstances, as set out in r. 74 of the NGR, as it correctly accounts for transition from annual to quarterly data.

Aluminium and steel

Aluminium is used as an input for the lower pressure pipelines as well as meters.[192] To forecast real cost escalators for aluminium, the CEG cost escalators report relies on futures prices for aluminium sourced from the London Metal Exchange (LME) for the period to July 2011 and from then on relies on Consensus Economics's forecasts to derive real cost escalators for the remainder of the access arrangement period.[193] For the purposes of modelling, the CEG cost escalators report assumes that Consensus Economics's long-term forecast refers to a period of 7.5 years and the CEG cost escalators report applies a linear interpolation is used for available price data.[194] The CEG cost escalators report then applies linear interpolation for available LME futures prices at three months, seven months and 27 months, and the Consensus Economics forecast of 90 months.[195]

Steel is used as an input for the high pressure pipelines. In order to forecast the real cost escalators for steel over the access arrangement period, Consensus Economics' forecasts are used, as no liquid futures price market exists for steel.[196] This approach is consistent with that approved by the AER in its final decision for ActewAGL electricity distribution.[197]

The real cost escalators for aluminium and steel shown in Table 3.6 reflect this methodology but use more up to date data. The AER considers that the most up to date forecast provides the best forecast possible in the circumstances, as required by r. 74(2)(b) of the NGR.

Polyethylene

The CEG cost escalators report notes that polyethylene is a substitute for the use of nylon-11 for use in gas mains and that some gas network providers in Australia use polyethylene pipes in preference to nylon-11. The CEG cost escalators approach notes that ActewAGL predominantly uses nylon-11 pipes but the CEG finds that there is no liquid futures market or long-term price forecast available for this material. [198] Therefore, the CEG cost escalators report submits that polyethylene prices are a reasonable substitute for forecasting nylon-11 prices.[199]

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192 ActewAGL, E*mail to the AER*, 7 August 2009 (confidential).

193 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management,* June 2009, pp. 19–20.

194 ActewAGL, *Access arrangement information*, appendix J: CEG, Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management, June 2009, pp. 19–20.

195 ActewAGL, *Access arrangement information*, appendix J: CEG, Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management, June 2009, pp. 19–20.

196 ActewAGL, *Access arrangement information*, appendix J: CEG, Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management, June 2009, p. 21.

197 AER, *Final decision: Australian Capital Territory distribution determination 2009–10 to 2013–14*, 28 April 2009, pp. 40–44.

198 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management*, June 2009, p. 22.

199 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management*, June 2009, p. 22.

In order to forecast the real cost escalators for polyethylene over the access arrangement period, ActewAGL proposes a two stage process. First, ActewAGL seeks to demonstrate a historical relationship between crude oil prices and thermoplastic resin (which includes polyethylene) prices using an econometric model. This historical relationship is then used to create a forecast price index for thermoplastic resin.[200] Forecasting over the access arrangement period is possible as crude oil futures prices are available from NYMEX until 2017.[201]

The AER considers that the econometric model proposed by ActewAGL appears to out perform other models considered by ActewAGL's consultants.[202] The AER considers that it would be difficult to create a better econometric model without entering into detailed analysis of the markets for crude oil, thermoplastic resin, polyethylene and nylon-11.

The AER considers that there are two main weaknesses with ActewAGL's proposed method for forecasting a real price escalator for nylon-11. The first is the implied relationship between nylon-11 and crude oil. The second is the construction of the forecast price index.

The AER's first concern is the validity of the relationship between nylon-11 and crude oil, as crude oil is not an input into the production of nylon-11. The AER notes that neither ActewAGL's submission nor the CEG cost escalators report present evidence to support a relationship between nylon-11 and crude oil prices other than the fact that nylon-11 and polyethylene are substitutes.

Second, the AER has considered the construction of the forecast price index. There are two stages involved in the creation of the forecast price for polyethylene. The first stage is the demonstration of a historical relationship between thermoplastic resin and crude oil prices. This stage involves the quantification of the historical relationship and is done using an econometric model. The second stage uses the historical relationship to construct a forecast price index, which involves inputting forecast crude oil price changes into the econometric model to develop forecast polyethylene price changes.

The AER notes that the first stage, which estimates the historical relationship between crude oil prices and thermoplastic resin prices, uses price indexes from the Bureau of Labour Statistics. These price indexes show changes in nominal prices paid by producers for these commodities. However, when forecasting the price index for polyethylene, the forecast crude oil price index is based on the change in real crude oil prices denominated in Australian dollars.

The AER does not consider this approach to be appropriate as the estimated relationship between crude oil prices and thermoplastic resin prices includes the

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200 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management*, June 2009, pp. 39–40.

201 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management*, June 2009, pp. 21–22.

202 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management*, June 2009, pp. 39–40.

effects of inflation, as the relationship is based on nominal prices. As this approach may lead to double counting of inflation as the forecast real price is inflated in the PTRM model. Further, the AER does not consider it appropriate to change data series, from a nominal price index based on US dollars to a real price index based on Australian dollars, between the estimation of the econometric model and its application to develop a forecast price index.

As there is the potential for double counting of inflation, the AER does not consider the method proposed by ActewAGL for forecasting a price index for polyethylene represents the best forecast or estimate possible in the circumstances in accordance with r. 74(2) of the NGR.

Therefore, ActewAGL is required to amend the access arrangement as outlined in amendment 3.3.

Table 3.6: AER's real cost escalators for capital expenditure (%)

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
General labour – ACT	1.1	0.2	0.4	1.0	1.5	1.6
EGW labour – NSW	2.1	0.1	0.5	0.9	1.5	1.7
EGW labour – ACT	3.1	0.9	0.5	1.1	1.5	1.4
Aluminium	3.1	24.2	7.0	2.6	1.3	0.9
Steel	–21.1	31.9	11.5	0.8	–0.7	–1.1
Polyethylene	0.0	0.0	0.0	0.0	0.0	0.0

Carbon Pollution Reduction Scheme

To forecast the effects of an emissions trading scheme on input price escalators, the CEG cost escalators report analyses input-output tables to estimate the amount of CO_2 generated in the production of the input materials. This estimated quantity of CO_2 is then priced according to expected prices under the emissions trading scheme.[203]

The AER has a number of concerns about the application of escalators for the proposed Carbon Pollution Reduction Scheme (CPRS). First, the AER considers that there is still uncertainty about the final form of the carbon pollution reduction scheme. The AER also notes that ActewAGL has proposed a cost pass through for costs relating to a carbon pollution reduction scheme.[204] The AER considers that it is appropriate for uncertain future costs, such as those relating to the CPRS, to be treated as a cost pass through event.

Second, the escalators incorporating the cost of the CPRS developed in the CEG cost escalators report are based on the assumption that futures or forecast prices do not

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[203] ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management*, June 2009, p. 25–29.

[204] ActewAGL, *Access arrangement information*, 30 June 2009, p. 244.

include the potential costs relating to the CPRS.[205] However, the AER considers that this assumption contradicts another statement in the CEG cost escalators report that if there were a better estimate (than futures market prices) of future prices then investors could expect to profit by buying/selling futures until today's price reflected the best estimate of spot prices on the relevant future date.[206] The AER considers that futures prices are likely to include the best possible estimate of costs relating to the CPRS while giving weight to the uncertainty surrounding it.

As an example, when the Australian Government announced on 4 May 2009 that the commencement of the CPRS has been delayed for one year to 1 July 2011, the forward electricity contract price for 2010–11dropped by up to 13 per cent, indicating that estimates of the costs of the CPRS are included in forward prices.[207]

Polyethylene is one material cost escalator proposed by ActewAGL which does not have a futures market. Even though there is no futures market, the AER considers that the potential cost increase relating to the introduction of the CPRS is unlikely to be material.

The AER considers that it is not appropriate to include escalators for the CPRS because of the uncertainty surrounding the timing and the final form including price of the CPRS. Further, forecasts for cost escalators that are based on future prices will already have the cost of the CPRS included. Therefore, ActewAGL is required to amend its access arrangement proposal as outlined in amendment 3.4.

Conclusion on capital expenditure

In light of the analysis above, the AER does not consider that ActewAGL's forecast capital expenditure complies with the requirements of r. 79 of the NGR. That is, it does not represent capital expenditure that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.

Further, the AER considers that ActewAGL's proposed capital expenditure is inconsistent with the national gas objective as it does not represent efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.[208]

The AER also considers that ActewAGL's proposed forecast capital expenditure does not represent the best forecasts possible in the circumstances.[209]

Therefore, ActewAGL is required to amend its access arrangement proposal as outlined in amendment 3.5.

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205 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management*, June 2009, p. 25.

206 ActewAGL, *Access arrangement information*, appendix J: CEG, *Escalation factors affecting expenditure forecasts: A report for Jemena Asset Management*, June 2009, p. 8.

207 AER, *Weekly Market Analysis*, 26 April–May 2009 and 3 May–9 May 2009.

208 NGL, s. 23.

209 NGR, 74(2)(b).

3.6.2.2 Capital contributions

ActewAGL excludes capital contributions from the capital base.[210] The AER notes that ActewAGL does not include a mechanism to prevent ActewAGL from benefiting through increased revenue because of a user's contribution to the capital base.[211] The AER does not require ActewAGL to amend its access arrangement proposal for capital contributions.

3.6.2.3 Depreciation

As a consequence of the required amendments to ActewAGL forecast capital expenditure and adjustment to the capital base for inflation as outlined above, the AER requires an amendment to ActewAGL's forecast depreciation under r. 78 of the NGR. ActewAGL must amend its forecast depreciation as outlined in amendment 3.6.

3.6.2.4 Forecast disposals

The AER accepts ActewAGL's submission that the value of any meters that may be disposed of is likely to be insignificant and considers that forecasting the value of any meters disposed of is problematic. No amendment is required to ActewAGL's access arrangement proposal for forecast disposals. The AER accepts ActewAGL's proposal that no value for disposals should be included in the projected capital base. In doing so the AER notes that the opening capital base for next access arrangement period commencing 1 July 2015 will be net of the value of any assets disposed of during the access arrangement period. In its access arrangement information ActewAGL uses the term 'cash disposals',[212] a term not used in the NGR. The AER considers that assets that are disposed of, or forecast to be disposed of, should be deducted from the capital base at their value in the capital base, not the cash price at which the assets are sold.

3.6.2.5 Adjustment to the capital base for inflation

The AER's consideration of ActewAGL's approach to estimating expected inflation is discussed in chapter 5 of the draft decision. The AER considers that ActewAGL's approach of using a market implied inflation forecast to adjust the capital base for inflation during the access arrangement period is not appropriate at this time. For reasons discussed in chapter 5 the AER does not consider that ActewAGL's forecast inflation rate of 2.09 per cent represents the best forecast possible in the circumstances.[213] Instead, the AER uses a geometric average comprised of the RBA's short-term inflation forecasts and the target range mid-point of 2.5 per cent to estimate an inflation rate of 2.45 per cent for the access arrangement period. The AER's full consideration of the appropriate inflation is contained in chapter 5 of the draft decision. ActewAGL must amend its adjustment to the capital base for forecast inflation by making amendment 3.6.

3.6.2.6 Summary for projected capital base

The AER has considered the components of ActewAGL's proposed projected capital base. Given the amendments required to ActewAGL's proposed capital expenditure,

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210 NGR, r. 82(3).

211 NGR, r. 82.

212 ActewAGL, *Access arrangement information*, p. 128.

213 NGR, r. 74(2)(b).

forecast depreciation and adjustment of the capital base for inflation, the AER considers that ActewAGL's projected capital base does not comply with r. 74(2) and r. 78 of the NGR. ActewAGL is required to make the amendment 3.7.

3.6.2.7 Key performance indicators

The AER notes that ActewAGL has provided a list of the key performance indicators that it uses to support its proposed capital and operating expenditure.[214]

3.6.3 Opening capital base for the next access arrangement period

ActewAGL's approach to depreciation in establishing the opening capital base for the next access arrangement period, commencing 1 July 2015, differs to its approach for establishing the opening capital base for the access arrangement period. ActewAGL proposes to calculate depreciation using forecast capital expenditure rather than actual capital expenditure.[215] This is consistent with the approach outlined in the AAG.[216]

The AER considers that ActewAGL's proposal to use actual capital expenditure to calculate depreciation in the earlier access arrangement is consistent with r. 77(2)(d).[217] In addition r. 90(2) allows for an access arrangement to specify whether forecast or actual capital expenditure is to be used as the basis for depreciating the capital base.

Therefore, the AER accepts ActewAGL proposal to use forecast capital expenditure to calculate depreciation in establishing the opening capital base for the access arrangement period commencing 1 July 2015.

3.6.4 Other access arrangement proposal provisions relevant to the capital base

3.6.4.1 Capital redundancy policy

The AER considers that the capital redundancy policy ActewAGL proposes does not comply with r. 77(2)(e) of the NGR, which requires that redundant assets identified during an access arrangement period be removed from the opening capital base of the subsequent access arrangement period. ActewAGL proposes a redundancy policy that gives the AER the discretion to remove the value of redundant assets from the opening capital base. The AER considers that under r. 77(2)(e) of the NGR there is no discretion and redundant assets must be removed when determining the opening capital base for an access arrangement period. In light of this, the AER considers that ActewAGL's proposed capital redundancy is likely to cause uncertainty for ActewAGL, users and prospective users.[218] For these reasons ActewAGL is required to delete is proposed redundancy policy in accordance with amendment 3.8.

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214 ActewAGL, *Access arrangement information*, June 2009, pp. 269–273.

215 ActewAGL, *Access arrangement proposal*, June 2009, clause 4.24, p. 23.

216 AER, *Access arrangement guideline*, March 2009, pp. 61–62.

217 NGR, schedule 1, cl. 5(1)(d) also requires the AER to take into account the set of depreciation schedules that constitute the Depreciation Schedule for the transitional access arrangement under section 8.32 of the Code.

218 NGR, r. 85(4).

3.6.4.2 New capital expenditure for the reference tariff policy

The AER has concerns with clauses 4.17 to 4.21 in ActewAGL's access arrangement proposal, which the AER considers do not accurately reflect or reference the NGR.

Clause 4.17 of the access arrangement proposal states that reference tariffs have been determined on the basis of the capital base and forecast capital expenditure that is reasonably expected to satisfy the requirements of r. 83 of NGR.[219] However, this does not take into consideration that not all amounts that may be included in the capital base (namely capital contributions under r. 82 of the NGR) will determine reference tariffs. Further the conforming capital expenditure criteria rule is r. 79 of the NGR not r. 83, which deals with surcharges. [220] The AER considers that ActewAGL intended to refer to r. 79 of the NGR.

While the AER notes that ActewAGL's access arrangement information states that ActewAGL does not intend to include any capital contributions in its capital base,[221] nevertheless the AER requires an amendment to clause 4.17 of the access arrangement proposal to the effect that reference tariffs will not be calculated in accordance with any capital contributions in the event they are included in the capital base. ActewAGL is required to amend the access arrangement as outlined in amendment 3.9.

Clause 4.19 of the access arrangement proposal states that ActewAGL may undertake capital expenditure that does not satisfy r. 79 of the NGR. Where ActewAGL does so, it may increase the capital base for any part of that new capital expenditure that does satisfy r. 79 of the NGR.[222] The AER's concern with clause 4.19 of the access arrangement proposal is similar to its concern with clause 4.17 of the access arrangement. That is, clause 4.21 of the access arrangement proposal does not acknowledge that under r. 82 of the NGR the capital base may include capital contributions under certain circumstances. ActewAGL is required to amend the access arrangement as outlined in amendment 3.10.

Clause 4.20 of the access arrangement proposal states that the amount of capital expenditure that does not satisfy r. 79 of the NGR forms part of the speculative capital expenditure account. ActewAGL may increase the capital base if part of the speculative capital expenditure account subsequently satisfies the requirements of r. 79 of the NGR. However, the NGR provides other means of recovering non-conforming capital expenditure than just the use of a speculative capital account as outlined in clause 4.20 of the access arrangement proposal, such as through a surcharge or by capital contributions.[223] ActewAGL is required to amend the access arrangement as outlined in amendment 3.11 to better reflect the requirements of the NGR.

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219 ActewAGL, *Access arrangement proposal*, June 2009. p. 22.

220 Clause 4.17(b) refers to 'section 83' of the NGR, but the AER considers that this is meant to be reference to r. 79 of the NGR.

221 ActewAGL, *Access arrangement information*, June 2009, p. 140.

222 ActewAGL, *Access arrangement proposal*, June 2009, p. 22.

223 NGR, r. 83 and r. 84.

The AER notes that inclusion of a provision for a speculative capital expenditure account in the access arrangement proposal is contrary to statements in the access arrangement information that ActewAGL does not maintain a speculative capital expenditure account.[224]

Clause 4.21 of the access arrangement proposal states that any increase in the capital base under clauses 4.17 to 4.21 of the access arrangement proposal takes effect from the revisions commencement date.[225] The AER has a number of concerns with this clause.

The AER considers that the reference to clause 4.17 in clause 4.21 of the access arrangement proposal is incorrect as clause 4.17 of the access arrangement proposal deals with the determination of reference tariffs and not the capital base. The AER is concerned that the interaction of clause 4.17 with clause 4.21 of the access arrangement proposal as it stands would establish the calculation of the opening capital base at 1 July 2015 on the basis of forecast capital expenditure. This is inconsistent with r. 77(2)(a) and (b) of the NGR which require the opening capital to be adjusted for actual conforming capital expenditure. The AER also notes that clause 4.21 of the access arrangement proposal unnecessarily includes a reference to itself. ActewAGL is required amend the access arrangement by modifying clause 4.21 of the access arrangement proposal to refer to clauses 4.18 to 4.20 of the access arrangement proposal, as outlined in amendment 3.12.

While in general the AER considers that it is appropriate to add capital expenditure at the commencement of a new access arrangement period there is a practical exception to this policy in the case of a cost pass through of capital expenditure. These amounts will be added to the capital base during the access arrangement period once they are approved to determine reference tariffs. The AER also notes that clauses 4.18 to 4.20 of the access arrangement proposal contain no reference to the capability for the capital base to be increased in accordance with r. 80.[226]

In light of the above, ActewAGL is required make an amendment to clause 4.21 of the access arrangement proposal as outlined in amendment 3.12.

As a minor point, the AER notes that the use of the word 'section' rather than 'rule' is used to reference the rules in section 4 of the access arrangement proposal and in particular clauses 4.17 to 4.20 of the access arrangement proposal. This has been addressed for clauses 4.17, 4.19 and 4.20 of the access arrangement proposal in amendments 3.9 to 3.12, which are outlined above. For clause 4.18 of the access arrangement proposal, ActewAGL is required amend the access arrangement as outlined in amendment 3.13.

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224 ActewAGL, *Access arrangement information*, June 2009 pp. 135, 138.

225 ActewAGL, *Access arrangement proposal*, June 2009, p. 22.

226 Rule 80 of the NGR states that the AER may, on application by a service provider, make a determination to the effect that, if capital expenditure is made in accordance with proposals made by the service provider as specified in the determination, the expenditure will meet the new capital expenditure criteria.

3.7 Conclusion

Opening capital base

The AER does not propose to approve the opening capital base for the access arrangement period proposed by ActewAGL as it does not comply with r. 77(2) of the NGR and requires ActewAGL to make amendments 3.1 and 3.2 set out below.

Projected capital base

The AER does not propose to approve the projected capital base proposed by ActewAGL as it does not comply with r. 78 of the NGR and requires ActewAGL to make amendments 3.3 to 3.7 as set out below.

Opening capital base for the next access arrangement period

The AER proposes to approve the calculation of depreciation on the basis of forecast capital expenditure for establishing the opening capital base proposed by ActewAGL as this complies with r. 90 of the NGR.

Other provisions of the access arrangement proposal

The AER does not propose to approve the mechanism to remove redundant assets from the capital base proposed by ActewAGL as it does not comply with r. 77(2)(e) and r. 85(1) of the NGR and requires ActewAGL to make amendment 3.8 set out below.

The AER does not propose to approve clauses 4.17 to 4.21 of the access arrangement as they do not comply with r. 77(2)(a), r. 77(2)(b) and r. 100 and requires ActewAGL to make amendments 3.9 to 3.13 set out below.

3.8 Amendments required to the access arrangement proposal

Before the proposed revised access arrangement can be approved, ActewAGL must make the following amendments.

Amendment 3.1: amend the access arrangement information to:

- delete the row labelled 'Regulatory capitalisation costs' under the heading 'Actual and forecast capital expenditure' in Table 6.2
- delete the row labelled 'Regulatory Costs' in Table 6.6
- delete the row labelled 'Regulatory costs (capitalised)' in Table 6.7

and replace these rows with the following:

Table 3.7: Derivation of the opening capital base at 1 July 2010 ($ m, real, 2009–10)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Total
Regulatory costs	2.06	0.00	0.00	0.00	0.00	0.00	2.06

Amendment 3.2: delete Table 7.3 in the access arrangement information and replace it with the following:

Table 3.8: Derivation of the opening capital base at 1 July 2010 ($m, nominal)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Opening capital base	225.9	233.8	239.3	250.4	255.6	266.1	277.1
Capital expenditure	9.8	7.2	11.1	7.6	7.9	15.0	
Depreciation	7.3	8.0	8.6	8.4	8.7	9.0	
Adjustment for inflation	5.4	6.3	8.7	5.9	11.3	5.0	
Closing capital base	233.8	239.3	250.4	255.6	266.1	277.1	
Adjustment						0.01	

Amendment 3.3: delete Table 6.10 in the access arrangement information and replace it with the following:

Table 3.9: Real escalation factors for ActewAGL (%)

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
General labour – ACT	1.1	0.2	0.4	1.0	1.5	1.6
EGW labour – NSW	2.1	0.1	0.5	0.9	1.5	1.7
EGW labour – ACT	3.1	0.9	0.5	1.1	1.5	1.4
Aluminium	3.1	24.2	7.0	2.6	1.3	0.9
Steel	–21.1	31.9	11.5	0.8	–0.7	–1.1
Polyethylene	0.0	0.0	0.0	0.0	0.0	0.0

Amendment 3.4: delete Table 6.11 in the access arrangement information and replace it with the following:

Table 3.10: Effect of emissions trading scheme on escalation factors (%)

	2009	2010	2011	2012	2013	2014
Aluminium	0.0	0.0	0.0	0.0	0.0	0.0
Steel	0.0	0.0	0.0	0.0	0.0	0.0
Polyethylene	0.0	0.0	0.0	0.0	0.0	0.0
Concrete	0.0	0.0	0.0	0.0	0.0	0.0

Amendment 3.5: amend the access arrangement information to:

- delete Table 6.8 and replace it with the following:

Table 3.11: Forecast capital expenditure 2010–15 by justification ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
Distribution system						
Market expansion	8.6	6.9	6.8	5.9	5.5	33.7
Capacity development	5.4	15.1	0.6	0.3	2.2	23.5
Stay in business	11.2	2.0	3.3	3.7	2.8	23.0
Non system						
Non-system (IT)	0.3	0.3	0.4	0.1	0.0	1.1
Total capital expenditure	25.5	24.3	11.1	10.0	10.5	81.4

- delete Table 6.9 and replace it with the following:

Table 3.12: Forecast capital expenditure 2010–15 by asset type ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
TRS & DRS –Valves and regulators	12.6	3.9	0.4	0.9	0.4	18.2
HP mains	0.9	11.2	0.0	0.0	1.3	13.4
MP mains	4.8	3.5	3.5	2.5	2.8	17.0
Meters - (tariff)	3.4	2.5	3.9	3.7	3.3	16.7
Meters - contract	0.6	0.2	0.2	0.3	0.2	1.4
MP services	2.9	2.8	2.7	2.5	2.5	13.5
HP services	0.0	0.0	0.0	0.0	0.0	0.0
IT system	0.3	0.3	0.4	0.1	0.0	1.1
Total capital expenditure	25.4	24.3	11.0	9.9	10.4	81.4

Amendment 3.6: delete Table 7.6 and Table 10.2 in the access arrangement information and replace them with the following:

Table 3.13: Economic depreciation 2010–11 to 2014–15 ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15
Straight line depreciation	9.2	10.9	12.0	12.8	13.6
Inflation adjustment	-6.8	-7.4	-8.0	-8.2	-8.3
Economic depreciation	2.41	3.48	4.04	4.66	5.25

Amendment 3.7: delete Table 7.7 and Table 10.3 in the access arrangement information and replace them with the following:

Table 3.14: Projected capital base 2010–11 to 2014–15 ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15
Opening capital base	277.1	294.5	309.3	309.6	308.3
Forecast capital expenditure	26.4	25.2	11.4	10.3	10.8
Forecast depreciation	9.0	10.4	11.2	11.6	12.0
Closing capital base	294.5	309.3	309.6	308.3	307.0

Amendment 3.8: delete clauses 4.15 and 4.16 in the access arrangement and clauses 7.2.7, 7.2.7.1 and 7.2.7.2 in the access arrangement information.

Amendment 3.9: delete clause 4.17 in the access arrangement proposal and replace it with the following:

> Reference tariffs have been determined on the basis of:
>
> (a) the capital base (excluding any capital contributions made under rule 82 of the National Gas Rules); and
>
> (b) new capital expenditure that is forecast to occur within the Access Arrangement Period and is reasonably expected to satisfy the requirements of rule 79 of the National Gas Rules ("Forecast Capital")

Amendment 3.10: delete clause 4.19 in the access arrangement proposal and replace it with the following:

> ActewAGL may undertake new capital expenditure that does not satisfy rule 79 of the National Gas Rules. Where ActewAGL does so, ActewAGL may increase the capital base for any part of that new capital expenditure that does satisfy rule 79 of the National Gas Rules. ActewAGL may also increase the capital base for capital contributions under rules 82(2) and (3) of the National Gas Rules.

Amendment 3.11: delete clause 4.20 in the access arrangement and replace it with the following:

> The amount that does not satisfy the requirements of rule 79 of the National Gas Rules, to the extent that it is not to be recovered through a surcharge on users or a capital contribution, forms part of the Speculative Capital Expenditure Account (as contemplated by rule 84 of the National Gas Rules). ActewAGL may increase the Capital Base in accordance with rule 84(3) of the National Gas Rules if a part of the Speculative Capital Expenditure Account subsequently satisfies the requirements of rule 79 of the National Gas Rules.

Amendment 3.12: delete clause 4.21 in the access arrangement proposal and replace it with the following:

> Any increase in the Capital Base under clauses 4.18 to 4.20, or in accordance with rule 80 of the National Gas Rules, may only take effect from the Revisions Commencement Date, or in accordance with the operation of the Cost Pass-Through mechanism.

Amendment 3.13: delete clause 4.18 in the access arrangement proposal and replace it with the following:

> ActewAGL may increase the Capital Base for the Network for any part of the new capital expenditure that satisfies rule 79 of the National Gas Rules.

4 Depreciation

4.1 Introduction

This chapter sets out the ActewAGL's submissions and the AER's consideration of ActewAGL's proposed depreciation schedules and asset lives.

Depreciation over the earlier access arrangement period is one of the determinants of the opening capital base. Depreciation over this access arrangement period is reflected in total revenue in two ways. First, it is a component of the projected capital base, and second, there is a separate deprecation building block.

4.2 Regulatory requirements

Rule 88(1) of the NGR provides that the depreciation schedule sets out the basis on which the pipeline assets constituting the capital base are to be depreciated for the purpose of determining a reference tariff. Rule 88(2) of the NGR provides that the depreciation schedule may consist of a number of separate schedules, each relating to a particular asset or class of assets.

Rule 89(1) of the NGR provides that the depreciation schedule should be designed:

> (a) so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services; and
>
> (b) so that each asset or group of assets is depreciated over the economic life of that asset or group of assets; and
>
> (c) so as to allow, as far as reasonably practicable, for adjustment reflecting changes in the expected economic life of a particular asset, or a particular group of assets; and
>
> (d) so that (subject to the rules about capital redundancy), an asset is depreciated only once (ie that the amount by which the asset is depreciated over its economic life does not exceed the value of the asset at the time of its inclusion in the capital base (adjusted, if the accounting method approved by the AER permits, for inflation)); and
>
> (e) so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs.

Rule 89(2) of the NGR provides that compliance with r. 89(1)(a) may involve deferral of a substantial proportion of the depreciation, particularly where:

> (a) the present market for pipeline services is relatively immature; and
>
> (b) the reference tariffs have been calculated on the assumption of significant market growth; and
>
> (c) the pipeline has been designed and constructed so as to accommodate future growth in demand.

Clause 5(1)(d) of schedule 1 of the NGR provides that in deciding whether to approve an access arrangement revision proposal for a transitional access arrangement, or in making its own proposal for revision of a transitional access arrangement under r. 63

or r. 64 of the NGR, the AER must take into account the depreciation schedule for the transitional access arrangement under section 8.32 of the Code.

4.3 ActewAGL's proposal

Consistent with the earlier access arrangement period, ActewAGL proposes estimating depreciation in the access arrangement period using a straight line depreciation method.[227] The ICRC approved this methodology for the earlier access arrangement period.[228]

ActewAGL proposes to determine the opening asset base at 1 July 2010 applying the same approach as was adopted for the opening capital base as at 1 July 2004. The depreciation schedule used to estimate the opening capital base is proposed to be based on actual rather than forecast capital expenditure.[229]

Table 4.1 sets out ActewAGL's proposed actual and forecast depreciation in the earlier access arrangement period.

Table 4.1: Depreciation for the earlier access arrangement period ($m, nominal)

	2004–05	2005–06	2006–07	2007– 08	2008–09	2009–10
Total	7.3 a	8.0 a	8.6 a	8.4a	8.7 b	9.2 b

Source: ActewAGL, *Access arrangement information*, June 2009, p. 137.
a: Actual.
b: Forecast.

Table 4.2 sets out ActewAGL's forecast depreciation for the access arrangement period.

Table 4.2: Depreciation for the access arrangement period ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15
Total	9.3	10.6	12.0	13.6	13.7

Source: ActewAGL, *Access arrangement information*, June 2009, p. 214.

Table 4.3 sets out the economic asset lives and remaining lives as at 30 June 2010. ActewAGL submits that the depreciation schedule reflects the remaining economic lives of the assets.[230]

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227 ActewAGL, *Access arrangement information*, June 2009, p. 140.

228 ICRC, *Final decision: Review of access arrangement for ActewAGL natural gas system in ACT, Queanbeyan and Yarrowlumla*, October 2004, p. 113.

229 ActewAGL, *Access arrangement information*, June 2009, p. 137.

230 ActewAGL, *Access arrangement information*, June 2009, pp. 141–142.

Table 4.3: Economic asset lives and remaining lives as at 30 June 2010 (years)

Asset Category	Standard life	Remaining life
Primary (HP) Mains	80	64.9
HP Services	50	32.5
MP Mains	50	29.8
MP Services	50	39.7
Regulators, Valves (TRS, SRS)	15	10.9
Contract meters	15	13.0
Tariff meters	15	11.0
IT System	5	3.7
Regulatory Costs	5	3.9

Source: ActewAGL, *Access arrangement information*, June 2009, pp. 141–142.

ActewAGL submits that each category of assets is depreciated once over the asset's expected economic life.[231]

ActewAGL submits that straight line depreciation ensures that assets are depreciated once and promotes the efficient growth in the market for gas distribution services in the ACT. ActewAGL also states that this form of depreciation provides sufficient cash flow to meet expected financing costs during the access arrangement period.[232]

4.4 AER's analysis and considerations

The AER's analysis and consideration in this chapter outlines the AER's assessment against the depreciation rules in division 6 of the NGR. This assessment does not include the value of the depreciation under r. 76 and r. 78 of the NGR, which is considered in chapter 3 of the draft decision.

4.4.1 Depreciation schedule

Rule 88 of the NGR outlines the function of the depreciation schedule and states that it may consist of one or more schedules for a particular asset or class of assets.

The AER considers that ActewAGL's depreciation schedule sets out the basis on which the pipeline assets constituting the capital base are depreciated for the purpose of determining a reference tariff.[233]

The AER notes that as required under r. 88(2) of the NGR, the depreciation schedule consists of separate schedules for the classes of assets, nine of which relate to the

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231 ActewAGL, *Access arrangement information*, June 2009, p. 214.

232 ActewAGL, *Access arrangement information*, June 2009, p. 140.

233 NGR, r. 88(1).

asset categories described at Table 4.3 of this chapter and the additional schedule relates to equity raising costs.

For the reasons given above, the AER considers that the depreciation schedule satisfies the requirements of r. 88 of the NGR.

As the AER's assessment of ActewAGL's proposed depreciation allowance for the earlier access arrangement period and the access arrangement period is contained in chapter 3 of the draft decision, the depreciation schedules are reproduced here for information purposes. The depreciation allowance approved by the AER for the access arrangement period is shown in Table 4.4.

Table 4.4: AER's draft decision on forecast depreciation for the access arrangement period ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15
Straight line depreciation	9.2	10.9	12.0	12.8	13.6

4.4.2 Depreciation criteria

Rule 89(1) of the NGR outlines the matters relevant to how a depreciation schedule is to be designed. ActewAGL proposes to depreciate its assets on a straight line basis over their remaining economic lives.

ActewAGL uses the same asset classes and asset lives in the access arrangement period as approved by the ICRC for the earlier access arrangement period. To calculate depreciation for the existing asset classes for the access arrangement period, ActewAGL uses the remaining asset lives rolled forward from the earlier access arrangement period.

The AER has considered the depreciation schedule proposed by ActewAGL and taken into account clause (5)(1)(d) of schedule 1 of the NGR.

The AER considers that the proposed depreciation schedule is consistent with the r. 89 of the NGR criteria for the following reasons:

- The straight line method of depreciation is appropriate when demand is forecast to grow relatively consistently over the access arrangement period.[234] This is consistent with r. 89(1)(a) of the NGR which requires reference tariffs to vary over time in a way that promotes efficient growth in the market for reference services.

[234] In the period before 2010, the growth trend in demand is broadly constant and linear, consistent with the conclusion drawn above. This is based on analysis of longer term trends of the ActewAGL demand profile including 15 years of demand data (forecast and actual). Information which forms the basis of this analysis was sourced from ActewAGL, *Access arrangement information*, June 2009, pp. 75, 91 and ActewAGL, *Access Arrangement information*, June 2009, appendix G: NIEIR, *Natural gas projections for ActewAGL Distribution*, May 2009, p. 45.

- The design of the depreciation schedule shows that each asset is depreciated over the economic life of the gas distribution assets.[235]

- The design of the depreciation schedule allows for adjustments reflecting changes in the expected economic life of those assets.[236]

- The design of the depreciation schedule shows that each asset is depreciated only once.[237]

- The design of the depreciation schedule ensures a positive value for depreciation adding to the positive components of the building block revenue ensuring positive cash flows in the form of revenue. This allows ActewAGL's reasonable cash flow to be able it to meet financing, non-capital and other costs.[238]

Rule 89(2) of the NGR refers to the deferral of depreciation. However, in this instance the AER does not consider this rule relevant because the present market for pipeline services is relatively mature and there is no assumption of significant market growth relating to the calculation of reference tariffs.

4.5 Summary

The AER considers that:

- ActewAGL sets out the basis on which the pipeline assets constituting the capital base are depreciated for the purpose of determining reference tariffs and the depreciation schedule consists of separate schedules for the classes of assets. This is consistent with the requirements of r. 88 of the NGR.

- ActewAGL's depreciation schedule reflects the requirements of the depreciation criteria. This is consistent with the requirements of r. 89 of the NGR.

4.6 Conclusion

Subject to amendments to ActewAGL's estimate of depreciation for total revenue as required by amendment 3.6 of the draft decision, the AER proposes to approve ActewAGL's depreciation schedule for the access arrangement period as it complies with r. 88 and r. 89 of the NGR.

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235 NGR, r. 89(1)(b).

236 NGR, r. 89(1)(c).

237 NGR, r. 89(1)(d).

238 NGR, r. 89(1)(e).

5 Rate of return

5.1 Introduction

This chapter sets out the AER's estimate of an efficient (market-based) benchmark rate of return on capital for ActewAGL over the access arrangement period. The key issues considered include the selection of an approach to calculate the rate of return on capital; including the estimation of relevant parameters, such as the risk-free rate, inflation forecast, equity beta, market risk premium, debt risk premium, gearing and gamma.

The AER's consideration of the corporate taxation allowance is not set out in this chapter because it is not compensated for through the weighted average cost of capital (WACC) and is considered in chapter 6 of this decision.

5.2 Regulatory requirements

Rule 72(1)(g) of the NGR provides that the access arrangement information for a full access arrangement proposal must include the proposed rate of return, the assumptions on which the rate of return is calculated and a demonstration of how it is calculated.

Rule 87(1) of the NGR provides that the rate of return on capital is to be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services. Rule 87(2) of the NGR provides that in determining a rate of return on capital:

> (a) it will be assumed that the service provider:
>
> (i) meets benchmark levels of efficiency; and
>
> (ii) uses a financing structure that meets benchmark standards as to gearing and other financial parameters for a going concern and reflects in other respects best practice; and
>
> (b) a well accepted approach that incorporates the cost of equity and debt, such as the Weighted Average Cost of Capital, is to be used; and a well accepted financial model, such as the Capital Asset Pricing Model, is to be used.

5.3 Summary of ActewAGL's proposal

ActewAGL proposes a nominal vanilla WACC approach to determine the rate of return on the projected capital base.[239] It submits that there are alternative asset pricing models, which could be considered 'well accepted' models that may overcome limitations in the Sharpe–Lintner CAPM used by regulators to determine the required

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[239] The AER notes that ActewAGL labels its WACC approach a 'nominal post-tax WACC' on page 146 of its access arrangement information. The more specific label 'nominal vanilla WACC' is used by the AER, and this is the label used by ActewAGL at pages xvi, 147, 237, 238 and 242 of its proposal. See ActewAGL, Access arrangement information, June 2009 and N., Hathaway, *Imputation WACCs: Descriptions and numerical valuation comparison*, November 2004, viewed 21 July 2009, <http://www.capitalresearch.com.au/downloads/WACC_descript.pdf>.

return on equity. Nonetheless, it proposes to use the Sharpe–Lintner CAPM to calculate the return on equity.[240]

The proposed nominal vanilla WACC is 11.09 per cent. The parameters underlying this estimation of the WACC are presented in Table 5.1.

Table 5.1: ActewAGL's proposed WACC parameters

Parameter	ActewAGL's proposal
Nominal risk-free rate (%)	5.12
Inflation (%)	2.09
Real risk-free rate (%)	2.97
Equity beta	1.0
Market risk premium (%)	7.5
Debt risk premium (%)	4.96
Debt share of total value (gearing) (%)	60
Nominal return on equity (%)	12.62
Nominal return on debt (%)	10.08
Nominal vanilla WACC (%)	11.09
Gamma (utilisation of imputation credits)[a]	0.65

Source: ActewAGL, *Access arrangement information*, June 2009, pp. 147–150.
a: Gamma does not directly enter the nominal vanilla WACC equation, since in this post-taxation framework all adjustments for taxation are made in cash flows. However, it is listed here because gamma is linked to the other WACC parameters.

5.4 Risk-free rate

The risk-free rate measures the return an investor would expect from an asset with zero volatility and zero default risk. The yield on long-term Commonwealth Government Securities (CGS) is often used as a proxy for the risk-free rate because the risk of government default on interest and debt repayments is considered to be low.[241]

In the CAPM framework, all information used for deriving the rate of return should be as current as possible in order to achieve an unbiased forward looking rate and a rate of return that is commensurate with prevailing conditions in the market for funds. While it may be theoretically correct to use the on the day rate as it represents the

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240 ActewAGL, *Access arrangement information*, June 2009, p. 147.

241 AER, *Final decision: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters*, 1 May 2009, pp. 128–174 (AER, *Final decision: WACC Review*, 1 May 2009).

latest available information, this can expose the service provider to daily volatility. For this reason, an averaging method is used to minimise volatility in observed bond yields.[242]

5.4.1 ActewAGL's proposal

ActewAGL proposes the annualised yield on CGS with a maturity of 10 years as a proxy for the risk-free rate, consistent with the review of WACC parameters for electricity transmission and distribution network service providers (the WACC review).[243] ActewAGL proposes to interpolate between the two nearest Treasury Bonds, TB122 (which matures on 15 March 2019) and TB126 (which matures on 15 April 2020) to determine a yield consistent with a 10-year maturity. For the purposes of its access arrangement proposal submission, ActewAGL uses the 20 business days from 4 May 2009 to 29 May 2009 to determine the nominal risk-free rate at 5.12 per cent.[244]

ActewAGL proposes that the risk-free rate should be updated close to the time of the final decision, and proposes a confidential averaging period for this purpose. ActewAGL explicitly allows for a change in these dates should the AER's final decision be delayed.[245]

5.4.2 AER's analysis and considerations

The risk-free rate is a market wide parameter that will not vary between different types of businesses.

The AER accepts that the risk-free rate should be estimated using the yield on 10-year CGS. The AER considers that a 10-year term assumption is consistent with the findings of the WACC review.[246]

The AER also considers that the risk-free rate should be estimated using a 10–40 business day averaging period. As discussed in the WACC review, the AER considers that a 10–40 business day averaging period represents the optimal length of time to balance the trade-off between 'volatility driven error' and 'old information driven error.'[247] Therefore, the AER accepts the length of the averaging period proposed by ActewAGL.

In practice, and as stated in the WACC review, the AER determines a risk-free rate that is observed as close as practically possible to the date of the final decision.[248] This approach is consistent with accepted finance theory, in order to determine an unbiased best estimate that reflects prevailing market conditions.[249] Although

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242 AER, *Final decision: WACC review*, 1 May 2009, pp. 128–174.

243 AER, *Final decision: WACC review*, 1 May 2009, pp. 128–174.

244 ActewAGL, *Access arrangement information*, June 2009, p. 149.

245 ActewAGL, *Access arrangement information*, June 2009, attachment L.1 (confidential).

246 AER, *Final decision: WACC review*, 1 May 2009, pp. 171–174.

247 AER, *Final decision: WACC review*, 1 May 2009, p. 170.

248 AER, *Final decision: WACC review*, 1 May 2009, pp. xiii, 170.

249 AER, *Final decision: Australian Capital Territory distribution determination 2009–10 to 2013–14*, 28 April 2009, pp. 96, 263 (AER, *Final decision: ACT distribution determination*, 28 April 2009).

ActewAGL's proposal is consistent with this approach, the AER notes that ActewAGL has assumed that the final decision will be made prior to the end of 2009.[250] The AER's final decision on ActewAGL's access arrangement proposal is expected in April 2010. Therefore, the AER has decided on a date for the averaging period that is closer to the date of the final decision, which it will use to establish the risk-free rate for the final decision.[251]

The AER also notes that in most cases, there will not be any CGS that expire exactly 10 years from the sampling date for the risk-free rate. The AER therefore uses straight line interpolation between the two adjacent CGS to determine a proxy value. This is the approach proposed by ActewAGL.[252]

For the draft decision, the AER establishes an indicative risk-free rate using the average of the observed yields for CGS during the 20 business day period from 25 September to 23 October 2009 to calculate an indicative WACC based on the averaging period that ActewAGL uses for the purposes of its submission.[253] The result is a nominal risk-free rate of 5.49 per cent. Therefore, the AER requires ActewAGL to amend its access arrangement information as outlined in amendment 5.2.

The AER will establish the risk-free rate for a specified 20 business day averaging period proximate to the final decision. This date is specified in confidential appendix A. For the purposes of its submission ActewAGL proposes a 20 day averaging period is used by.[254]

5.5 Inflation forecast

The expected inflation rate is not an explicit parameter within the WACC calculation. However, it is used in the post-taxation revenue model (PTRM) to forecast nominal total revenues and to index the capital base. It is an implicit component of the nominal risk-free rate, with implications for the return on both equity and debt.

5.5.1 ActewAGL's proposal

ActewAGL proposes the use of a market implied inflation forecast of 2.09 per cent for the access arrangement period.[255] ActewAGL states that if the AER should considers this forecast to be biased, it proposes to use the average inflation based on RBA inflation forecasts for the short-term, and the mid-point of the RBA target inflation band for the long-term.[256]

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250 ActewAGL, *Access arrangement information*, June 2009, attachment L.1 (confidential).

251 The AER's consideration of this date is set out in confidential appendix A.

252 ActewAGL, *Access arrangement information*, June 2009, p. 149.

253 ActewAGL, *Access arrangement information*, June 2009, p. 149.

254 ActewAGL, *Access arrangement information*, June 2009, p. 149.

255 ActewAGL, *Access arrangement information*, June 2009, p. 154.

256 ActewAGL, *Access arrangement information*, June 2009, pp. 154–156.

5.5.2 AER's analysis and considerations

As noted by ActewAGL, the AER has previously used a market-based inflation forecast.[257] However, the AER does not consider that implied inflation (derived by taking the difference between indexed and nominal CGS yields) provides a best estimate, arrived at on a reasonable basis,[258] of the inflation forecast given prevailing market conditions. ActewAGL graphs the converging yield on nominal and indexed CGS over the early part of 2009 as evidence that there is no longer a systematic bias when using this method.[259] The AER observes that this is a relatively brief period of analysis to demonstrate convergence, whereas between 2005 and 2008, there was significant deviation between nominal and indexed bonds. The AER considers that the concern with using the implied inflation method is due to the limited supply of indexed CGS relative to demand. The indexed CGS yields are not set in a well functioning market, which in turn implies that their use will not reflect informed market expectations of inflation. Since the supply of indexed CGS remains limited, it is inappropriate to use the market implied inflation forecast as a best estimate given prevailing market conditions.[260]

In the absence of a credible market-based approach, the AER has outlined in previous decisions a method likely to result in the best estimate, arrived at on a reasonable basis,[261] of inflation over a 10-year period.

This method is to apply the RBA's short-term inflation forecasts extending out for two years and the mid-point of the RBA's target inflation band beyond that period (i.e. 2.5 per cent) for the remaining eight years.[262] An implied 10-year inflation forecast is derived by averaging these individual forecasts. The AER considers that this approach remains appropriate and provides the most reliable estimate of expected inflation. This approach was also referred to by ActewAGL and is its proposal for estimating expected inflation should the AER consider the market implied inflation to be inappropriate.[263]

The RBA's statement on monetary policy examines a wide variety of objective data influencing inflation in both the domestic and international financial markets to

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257 AER, *Final decision: SP AusNet transmission determination 2008–09 to 2013–14*, 28 January 2009, pp. 99–106.

258 NGR, r. 74(2).

259 ActewAGL, *Access arrangement information*, June 2009, figures 8.1 and 8.2, p. 155.

260 The AER notes the resumption of issuance of Treasury Indexed Bonds by the Australian Office of Financial Management in October 2009. The AER will closely monitor developments in capital markets to determine the effect of this new issuance on the relative demand and supply for indexed CGS. Australian Office of Financial Management, *Operation Notice 21/2009: Treasury indexed bonds – Launch of new 2025 treasury indexed bond*, 29 September 2009, viewed 13 October 2009, < http://www.aofm.gov.au/content/notices/21_2009.asp> and Australian Office of Financial Management, *Operation Notice 23/2009: Pricing of new 2025 treasury indexed bond*, 30 September 2009, viewed 13 October 2009, <http://www.aofm.gov.au/content/notices/23_2009.asp>.

261 NGR, r. 74(2).

262 AER, *Final decision: ACT distribution determination*, April 2009, pp. 105–107 and AER, *Final decision: NSW distribution determination*, April 2009, pp. 233–237.

263 ActewAGL, *Access arrangement information*, June 2009, p. 156.

develop its inflation forecast.[264] The forecast is produced on a regular basis and is publicly available, including supporting analysis and reasoning.[265] Use of the RBA's statement on monetary policy provides consistency and transparency in the AER methodology for deriving an inflation forecast.

The AER also considers that the estimate of expected inflation should be updated to incorporate the latest available data closer to the time of the final decision. Inflation forecasts can change in line with market sensitive data and regulatory practice in Australia has been to update these forecast values at the time of making a decision.[266] The AER will therefore update its estimate of inflation based on the latest RBA forecasts as close as practical to the date of the final decision.

The AER considers that the best estimate, arrived at on a reasonable basis,[267] of the 10-year inflation forecast is a geometric average of the RBA short-term forecasts (currently extending out two years) and the mid-point of the RBA's target inflation range for the remaining years in the 10-year period.[268] Based on this approach and using the latest RBA forecasts, an inflation forecast of 2.45 per cent produces the best estimate for a 10-year period for this draft decision.[269]

Table 5.2 shows the calculation of the inflation forecast for the access arrangement period using the RBA data.

Table 5.2: AER's conclusion on inflation forecast (%)

	June 2011	June 2012	June 2013	June 2014	June 2015	June 2016	June 2017	June 2018	June 2019	June 2020	Geometric average
Forecast inflation	2.00[a]	2.50[a]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.45

Source: RBA, *Statement on monetary policy*, 7 August 2009, p. 75.
a: The RBA has not yet released a forecast for the year ending June 2012. This forecast will be available and adopted by the AER (including any update forecasts) at the time of the final decision. The mid-point of its target inflation band has been assumed for the purposes of this draft decision.

The AER also notes that the inflation forecast used in the AER's 2009 transmission determination for Transend is currently the subject of a merits review by the

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264 RBA, *Statement on monetary policy*, 7 August 2009, viewed 22 October 2009, <http://www.rba.gov.au/PublicationsAndResearch/StatementsOnMonetaryPolicy/Statements/statement-on-monetary-0809.pdf>.

265 RBA, *Statement on monetary policy*, 7 August 2009, viewed 22 October 2009, <http://www.rba.gov.au/PublicationsAndResearch/StatementsOnMonetaryPolicy/Statements/statement-on-monetary-0809.pdf>.

266 AER, *Final decision: ACT distribution determination*, April 2009, pp. 105–107; AER, *Final decision: NSW distribution determination*, April 2009, pp. 233–237.

267 NGR, r. 74(2).

268 The current RBA forecasts are available at <www.rba.gov.au>. The current target inflation band is between 2 and 3 per cent per annum, see Treasurer and the Governor of the Reserve Bank of Australia, *Joint statement on the conduct of monetary policy*, 6 December 2007, viewed 26 June 2009, <http://www.rba.gov.au/MonetaryPolicy/statement_conduct_mp_4_06122007.html>.

269 The AER notes that this will be updated to incorporate the latest available data from the RBA at the time of the final decision.

Australian Competition Tribunal (Tribunal).[270] The AER's final decision for ActewAGL will take account of the Tribunal's consideration of issues relating to the inflation forecast. Therefore the AER requires ActewAGL to amend its access arrangement information as outlined in amendment 5.2.

5.6 Equity beta

The equity beta measures the standardised correlation between the returns on an individual risky asset or business with that of the overall market. It represents the 'riskiness' of the business' returns compared with that of the market. Risk results from the possibility that returns will differ from expected returns—the greater the uncertainty around the returns of a business, the greater its level of risk.

5.6.1 ActewAGL's proposal

ActewAGL proposes an equity beta of 1.0. ActewAGL submits a report by the Competition Economists Group (CEG) that provides two reasons for a gas business' equity beta that is equal to or above the market average (1.0), and two reasons for a gas business' equity beta above the electricity business' equity beta determined in the WACC review (0.8).[271]

5.6.2 AER's analysis and considerations

In its access arrangement proposal, ActewAGL observes that the WACC review (which determined an equity beta of 0.8 for electricity businesses) made statements differentiating risks between electricity and gas businesses.[272] ActewAGL states that the additional gas specific risk 'should be compensated by the equity beta or the debt risk premium'.[273] The AER notes that consideration of business specific risk in the debt risk premium is via the credit rating applied to debt funding.[274] ActewAGL proposes a credit rating of BBB+, which is the same as that determined in the WACC review for electricity businesses (and applied to the most recent electricity determinations).[275] Therefore, consideration of any differences in risk between gas and electricity businesses is via the equity beta.

The AER has considered ActewAGL's proposal, including the contents of the CEG report, and the details of its assessment are included in appendix B. In summary, the AER considers that:

- the WACC review statements that gas businesses may have a higher business risk than electricity did not sufficiently distinguish between exposure to systematic

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270 Australian Competition Tribunal (Tribunal), Application by Transend, ACompT 5/2009.

271 CEG, *The market risk premium and relative risk for ActewAGL: A report for ActewAGL*, June 2009 (CEG, *MRP and relative risk for ActewAGL*, June 2009) and CEG, *The market risk premium and relative risk for Country Energy: A report for Country Energy*, June 2009 (CEG, *MRP and relative risk for Country Energy*, June 2009). The AER notes the minor differentiation between the two reports when presenting business-specific cash flow volatility arguments.

272 ActewAGL, *Access arrangement information*, June 2009, section 8.1.2, p. 147.

273 ActewAGL, *Access arrangement information*, June 2009, section 8.1.2, pp. 147–156.

274 Consideration of matters relating to the debt risk premium occurs later in this chapter and in appendix B.

275 AER, *Final decision: WACC review*, May 2009, pp. 390–392 and AER, *Final decision: ACT distribution determination*, April 2009, section 12.5.2, pp. 97–105.

risk and exposure to business specific risk.[276] The AER did not intend to imply that business specific risk should be compensated for in the equity beta. Further, the difference in systematic risk exposure between gas and electricity businesses is likely to be insignificant, particularly for regulated businesses such as ActewAGL. As outlined in the WACC review, empirical evidence suggests an equity beta of between 0.4 and 0.7 for both gas and electricity businesses.[277] Setting a value for the equity beta slightly higher than the empirical estimates provides a return to cover uncertainty for volume risk

- the extent to which business volatility (shown as volatility in cash flow, customer numbers and revenue) represents business specific risk rather than exposure to systematic risk is not conclusively proven. The business volatility presented by ActewAGL provides no persuasive evidence of exposure to systematic risk that would require compensation through the equity beta

- even though the Sharpe–Lintner CAPM has limitations it still remains a well accepted model that explains the risk–return relationship. Recent academic research continues to support the Sharpe–Lintner CAPM as the best available predictor of returns from a capital asset, and it is particularly accurate under the circumstances applying to the benchmark efficient business, and[278]

- comparing two dividend growth model (DGM) projections to infer the equity risk premium for the equity beta is not a well accepted approach. The AER observes that DGM projections are highly variable in response to small changes in inputs. Further, several of the assumptions underlying these inputs are contentious, including the assumptions, that analyst forecasts are current, that market expectations can be used as a proxy for analyst expectations, and that markets are always perfectly priced. Deriving an equity beta by comparing two DGM projections amplifies the uncertainty inherent in any DGM projection, such that limited weight can be given to this empirical analysis.

In addition to this, ActewAGL submits that regulatory consistency requires some weight be given to the equity beta (between 0.9 and 1.09) applied in the earlier access arrangement period (under the ICRC).[279] The AER notes that substantial new empirical analysis has been undertaken since the ICRC's 2004 decision, which provides a more up to date estimation of the equity beta for prevailing market conditions as required by the NGR.[280] The NGR requires the AER to determine a rate of return that reflects prevailing market conditions. Based on this information, an equity beta of between 0.4 and 0.7 ensures that the service provider has the

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276 AER, *Final decision: WACC review*, 1 May 2009, pp.170–108, 257–258.

277 AER, *Final decision: WACC review*, 1 May 2009, pp.239–334, 343.

278 For a full discussion of this point, see appendix B. The source paper is Da, Guo and Jagannathan, *CAPM for estimating the cost of equity capital: Interpreting the empirical evidence*, *NBER Working Paper*, April 2009, pp. 9–16, 27–29.

279 ActewAGL, *Access arrangement information*, June 2009, section 8.1.4, p. 151 and ICRC, *Final decision: Review of access arrangement for ActewAGL natural gas system in Act, Queanbeyan and Yarrowlumla*, October 2004, pp. 189–197. The AER observes that although the ICRC states a range for equity beta of between 0.9 and 1.09, the final pre-taxation real WACC adopted by the ICRC (7.0 per cent) implies that the ICRC equity beta lies between 0.96 and 1.09.

280 For particular details, see AER, *Final decision: WACC review*, May 2009 and NGR, r. 87(1).

opportunity to recover at least its efficient costs incurred in providing reference services and meeting regulatory requirements.[281] However, for regulatory certainty and adopting a conservative approach, the AER concludes that 0.8 is the best estimate, arrived at on a reasonable basis,[282] of the equity beta. The AER considers that a value of 1.0 does not provide the best estimate of the equity beta given prevailing market conditions,[283] and requires ActewAGL to amend its access arrangement information as outlined in amendment 5.2.

5.7 Market risk premium

The market risk premium (MRP) is the expected return over the risk-free rate that investors require in order to invest in a well diversified portfolio of risky assets. The MRP represents the risk premium investors who invest in such a portfolio can expect to earn for bearing only non-diversifiable (i.e. systematic) risk. The MRP is common to all assets in the economy and is not specific to an individual asset or business.

The MRP is scaled up or down by the equity beta (of a particular asset or business) to reflect the risk premium—over and above the risk-free rate—equity holders would require to hold that particular risky asset or business as part of the investor's diversified portfolio.

5.7.1 ActewAGL's proposal

ActewAGL proposes a MRP of 7.5 per cent.[284] ActewAGL states that current market circumstances differ from the historical average and that historical estimates of the MRP do not provide a reasonable basis for estimating a forward looking MRP.[285] ActewAGL submits a report by CEG to support its 7.5 per cent estimate of the MRP.[286]

The CEG report provides a number of forward looking MRP estimates using a DGM approach. Based on a gamma estimate of 0.65, the CEG report estimates that the MRP is in the range of 8.3 to 13 per cent.[287]

5.7.2 AER's analysis and considerations

The MRP is a market wide parameter and it is not specific to any business or industry. Therefore the AER considers that the estimation of the MRP for this determination should be consistent with the MRP estimated for electricity distribution in the WACC review. Further, the AER considers that the MRP should be estimated based on a

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281 NGL, s. 24(2).

282 NGR, r. 74(2).

283 NGR, r.74 (2)(b) and r.87 (1).

284 ActewAGL, *Access arrangement information*, June 2009, p. 151.

285 ActewAGL, *Access arrangement information*, June 2009, p. 150.

286 CEG, *MRP and relative risk for ActewAGL*, June 2009.

287 CEG, *MRP and relative risk for ActewAGL*, June 2009, pp. 18–19.

10-year term assumption, consistent with the estimation of the risk-free rate. This is necessary for internal consistency within the WACC estimation.[288]

A detailed analysis of ActewAGL's proposal (including the contents of the CEG report) is included in appendix B, which builds on previous considerations made in the WACC review.[289] In summary, this analysis outlines:

- the improvement in global financial conditions, including a reduction in market volatility
- the high variability of DGM based estimates of MRP, and
- the appropriate use of historical estimates of MRP.

The CEG report includes several statements from key economic institutions on the tumultuous nature of capital markets as a result of the global financial crisis (GFC).[290] The AER observes more recent statements from several of these institutions indicating that recovery has commenced, although the AER considers there is still need for caution.[291]

In particular, the CEG report presents data on the implied volatility of the equity index as evidence of the heightened risk in the market (and therefore the need for a higher MRP).[292] The AER considers that updated data on the ASX 200 index call options shows that volatility is returning to the levels experienced before the GFC.[293]

The CEG report presents a range of estimates for the MRP, all based on the same set of inputs to a DGM except for different assumptions regarding the length of time before market conditions return to pre-GFC levels (if at all).[294] The DGM does not differ substantially from the previous model submitted in the CEG report to the WACC review.

The AER notes, as stated in the WACC review, that cash flow based measures of the MRP (such as the DGM) are subject to a number of limitations:

- They provide highly variable forward looking estimates of the MRP.
- They are sensitive to small changes in assumptions.
- There is a relative lack of sources of these estimates.

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288 AER, *Final decision: WACC review*, 1 May 2009, p. 187.

289 AER, *Final decision: WACC review*, 1 May 2009, pp. 175–238.

290 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraphs 2–8, pp. 2–4.

291 These statements are included in appendix B.

292 CEG, *MRP and relative risk for ActewAGL*, June 2009, p. 7.

293 AER analysis of Bloomberg; data is graphed at figure B.1 in appendix B.

294 CEG, *MRP and relative risk for ActewAGL*, June 2009, pp. 18–19.

Small corrections to the DGM analysis in the CEG report produce an estimate of MRP between 6 per cent and 7.8 per cent. This is a marked reduction from an MRP between 8.3 per cent and 16.7 per cent outlined in the CEG report.[295]

As stated in the WACC review, the AER has previously observed MRP estimates derived using cash flow based measures substantially below the historical average, but has consistently maintained an MRP of 6 per cent in the interests of regulatory certainty and stability.[296] The AER considers that this approach balances the need to take account of prevailing market conditions and the need to provide regulatory certainty.

The AER further notes, as stated in the WACC review, that DGM based estimates provide measures of the MRP at a specific point in time, and as such are not necessarily consistent with the 10-year term assumption for the MRP.[297]

Consistent with the WACC review, the AER considers that due to these issues estimates of the MRP using a DGM approach are limited to being a useful cross-check for more reliable estimates of the MRP derived using other methods.

ActewAGL submits that a 7.5 per cent estimate of the MRP is consistent with the long-run historical average MRP estimated by Officer and Bishop for the period 1883–2007.[298] The AER noted in the WACC review that long-term historical MRP estimates that end in 2007 provide estimates of the MRP between 6.6 and 7.2 per cent. However, when this range is extended to 2008 the MRP is estimated to be between 5.7 and 6.2 per cent.[299]

The AER considers that prior to the onset of the GFC, an estimate of 6 per cent for the forward looking long-term MRP was the best estimate.[300] However, following the onset of the GFC, the AER notes the changed market conditions indicate an increase in the MRP, although it does not consider there is sufficient evidence to determine if this is a temporary or permanent change. The AER considers that in either case, given the uncertainty in the future outlook and consistent with its findings in the WACC review, an MRP of 6.5 per cent is appropriate for the purpose of a forward looking estimate commensurate with prevailing market conditions.

The AER considers that an MRP of 6.5 per cent provides the best estimate arrived at on a reasonable basis of the MRP in the prevailing market conditions,[301]and therefore the AER requires ActewAGL to amend its access arrangement information as outlined in amendment 5.2.

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295 CEG, *MRP and relative risk for ActewAGL*, June 2009, p. 18.

296 AER, *Final decision: WACC review*, 1 May 2009, p. 237.

297 AER, *Final decision: WACC review*, 1 May 2009, p. 219.

298 ActewAGL, *Access arrangement information*, June 2009, p. 151.

299 AER, *Final decision: WACC review*, 1 May 2009, p. 237.

300 AER, *Final decision: WACC review*, 1 May 2009, pp. 175–238.

301 NGR, r. 74(2) and r. 87(1).

5.8 Debt risk premium

The debt risk premium (or debt margin) is added to the nominal risk-free rate to calculate the expected return on debt, which is an input for calculating the WACC. The debt risk premium is the margin above the risk-free rate that investors in a benchmark efficient service provider are likely to demand as a result of issuing debt to fund the business operations.

5.8.1 ActewAGL's proposal

ActewAGL proposes that the debt risk premium be set by taking the average of Bloomberg and CBASpectrum fair value estimates (for debt with a 10-year maturity and a credit rating of BBB+) less the risk-free rate, measured over the same averaging period as the risk-free rate.[302] ActewAGL proposes a debt risk premium of 4.96 per cent that for the purposes of its submission it estimates over the 20 business days from 4 May 2009 to 29 May 2009.[303] The AER intends to update the debt risk premium closer to the date of the final decision.

ActewAGL notes the difference in estimates arising from the use of either the Bloomberg or CBASpectrum data services to derive the debt risk premium.[304] ActewAGL submits a report from CEG that compares the debt risk premium estimates from CBASpectrum and Bloomberg (known as 'fair value estimates').[305]

5.8.2 AER's analysis and considerations

The AER notes that much of the content of the CEG report is not new and has been considered in previous AER decisions.[306] The reasons provided in the CEG report for ActewAGL are discussed and analysed in appendix B. In summary, the AER considers that:

- given that both Bloomberg and CBASpectrum generate their fair value estimates using proprietary methods, it is inappropriate to speculate on the relative merits of their internal methodology. Neither ActewAGL, its consultants nor the AER possess an in depth knowledge of how either Bloomberg or CBASpectrum calculate their fair value estimates, and no weight can be given to assertions regarding the selection of input data or mathematical formulation of the yield functions as contained in the CEG report submitted by ActewAGL[307]

- evaluation of the output from each method against real world observations of yields (over a period) for a sample of actual bonds that reflect an efficient benchmark is the only impartial means of determining which method produces the

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302 ActewAGL, *Access arrangement information*, June 2009, section 8.1.5.1, p. 153.

303 ActewAGL, *Access arrangement information*, June 2009, p. 149.

304 ActewAGL, *Access arrangement information*, June 2009, section 8.1.5.1, p. 153.

305 CEG, *Estimating the cost of 10 year BBB+ debt: A report for ActewAGL*, June 2009 (CEG, *Cost of debt for ActewAGL,* June 2009).

306 AER, *Final decision: NSW distribution determination*, April 2009, pp. 224–232; AER, *Final Decision: ACT distribution determination*, April 2009, pp. 212–232; AER, *Draft determination: Victorian advanced metering infrastructure review: 2009–11 AMI budget and charges applications*, July 2009, pp. 119–123.

307 CEG, C*ost of debt for ActewAGL*, June 2009, pp. 14–16.

best estimates. Consequently, comparing the CBASpectrum and Bloomberg fair value estimates (including the average of both estimates) to observed yields of actual BBB+ rated bonds is the approach given weight by the AER when determining which data service provides a better estimate for the purposes of determining an efficient benchmark cost of debt. The AER updates its previous analysis (of April 2009) using data for the averaging period and finds that on this occasion CBASpectrum's fair value estimates are more closely aligned to the observed yields than Bloomberg's fair value estimates, and therefore provide the best estimate possible in the circumstances arrived at on a reasonable basis,[308] and

- there are problems with using the April 2009 Tabcorp floating rate note issue as the benchmark for comparing Bloomberg fair value estimates and CBASpectrum fair value estimates. Although a recent debt issue, it does not closely match the desired benchmark debt characteristics and is only a single data point.

The AER notes that except for the selection of a different benchmark data source, ActewAGL adopts the AER's methodology to estimate the debt risk premium.[309] This includes the adoption of an averaging period that matches the risk-free rate, and that the benchmark business issues 10-year Australian corporate bonds with a BBB+ credit rating.[310]

The AER considers that in the prevailing market conditions the best estimate arrived at on a reasonable basis[311] of the debt risk premium is found by using the CBASpectrum BBB+ fair value estimate. For the purposes of the draft decision, the debt risk premium was calculated by averaging over the 20 business days between 25 September and 23 October 2009 (to match the risk-free rate).[312] The resulting debt risk premium is 4.28 per cent. Adding this debt risk premium to the risk-free rate of 5.49 per cent provides a return on debt of 9.77 per cent. Therefore the AER requires ActewAGL to amend its access arrangement information as outlined in amendment 5.2.

The use of Bloomberg or CBASpectrum (or an average of both) fair yield estimates to derive the debt risk premium in the AER's 2009 electricity determinations for NSW, ACT and Tasmanian network service providers is currently the subject of a merits review by the Tribunal.[313] The AER's final decision for ActewAGL will take account of the Tribunal's consideration of issues relating to the debt risk premium.

For the final decision, the AER will update the debt risk premium based on the same averaging period as the risk-free rate.

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308 NGR, r. 74(2).

309 AER, *Final decision: NSW distribution determination*, April 2009, pp. 224–232 and AER, *Final decision: ACT distribution determination*, April 2009, pp. 97–105.

310 AER, *Final decision: WACC review*, 1 May 2009, pp. 345–392.

311 NGR, r. 74(2).

312 The AER will update the debt risk premium based on this methodology at the time of its final decision in accordance with r. 74(2) and r. 87(1) of the NGR.

313 Tribunal, Application by Energy Australia, TransGrid, Integral Energy, Transend and Country Energy, ACompT 2/2009, 3/2009, 4/2009, 5/2009, 6/2009.

5.9 Gearing ratio

The gearing ratio is defined as the ratio of the value of debt to total capital (i.e. debt and equity), and is used to weight the costs of debt and equity when formulating the WACC. A business' gearing ratio, also referred to as its capital structure, will have a significant bearing on the expected required return on debt and the expected required return on equity.

5.9.1 ActewAGL's proposal

ActewAGL proposes a debt share of total value of 60 per cent for the access arrangement period.[314]

5.9.2 AER's analysis and considerations

In theory, the optimal debt to equity ratio is the point at which business value is maximized, where the marginal costs of debt just offset the marginal benefits.[315] However, while an optimal capital structure theoretically exists, the actual optimal value of debt and equity for any given business is dynamic and dependent on a number of business specific factors.

For the purposes of determining the gearing ratio of a benchmark efficient service provider, the AER considers that in the long-run businesses will trend towards an efficient gearing ratio.

The gearing ratio of a benchmark efficient service provider may also be used:

- to re-lever asset betas for the purposes of analysing the level of systematic risk across businesses, and
- as a factor in determining a credit rating for deriving the debt risk premium.[316]

The AER considers, based on evidence from the WACC review, that gearing of 60 per cent for the benchmark efficient electricity business is supported by the most recent available and reliable empirical evidence. In the WACC review, the AER included gas businesses as close (but not perfect) comparators to the benchmark electricity business. The AER considers that this reasoning also holds in reverse—that is, electricity businesses are close (but not perfect) comparators for the benchmark efficient gas business.[317] Further, the majority of businesses in the WACC review sample were involved in gas networks.[318] The AER considers that the best estimate arrived at on a reasonable basis[319] of the gearing level for the benchmark efficient gas

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314 ActewAGL, *Access arrangement information*, June 2009, p. 153.

315 Jenson M., 'Agency Costs of Free Cash Flow, Corporate Finance and Takeovers', *American Economic Review*, Vol. 76, No. 2, 1986, pp. 323–329.

316 AER, *Final decision: WACC review*, 1 May 2009, pp. 111–127.

317 These reasons are detailed further in appendix B, in the context of equity beta (section B.2.2) and credit rating (section B.4.2). See also AER, *WACC review: Final decision*, 1 May 2009, pp. 104–110.

318 For the Bloomberg gearing ratio analysis, five out of six businesses were involved in gas networks; for the Standard and Poor's gearing analysis, nine out of eighteen businesses were involved in gas networks. AER, *Final decision: WACC review*, 1 May 2009, pp. 121–127.

319 NGR, r. 74(2).

business is 60 per cent. This generates a forward looking rate of return that is commensurate with prevailing conditions in the market for funds.[320]

The AER notes that gearing of 60 per cent is consistent with recent gas transmission decision.[321] This level of gearing has also been applied in recent electricity distribution and transmission determinations by the AER.[322]

The AER considers that gearing of 60 per cent proposed by ActewAGL is the best estimate arrived at on a reasonable basis[323] and meets the requirements of r. 87 of the NGR.

5.10 Gamma

Gamma is a measure of the value of imputation credits and is defined as a product of the 'imputation credit payout ratio' and the 'utilisation rate' (theta).[324] The gamma value does not explicitly appear in the nominal vanilla WACC, but is implicitly linked to the MRP. Under the post-taxation framework all adjustments for taxation are made in the cash flows, and these are detailed in chapter 6 of this decision.

5.10.1 ActewAGL's proposal

ActewAGL proposes a gamma value of 0.65, consistent with the finding of the WACC review.[325] ActewAGL notes, however, that it disagrees with the outcome of the WACC review and considers a gamma of 0.5 to be a better estimate.[326]

5.10.2 AER's analysis and considerations

The AER notes ActewAGL's preference for a gamma value lower than 0.5 and that it has proposed a gamma value of 0.65.[327] As noted by ActewAGL, no new information has been submitted by it about the estimate of gamma since the WACC review was completed in May 2009.[328] In that review, the AER gave detailed consideration to all available theoretical arguments and empirical data in arriving at a gamma value of 0.65.[329] Therefore, the AER accepts ActewAGL's proposed gamma value of 0.65.

5.11 Summary

ActewAGL proposes a nominal vanilla WACC of 11.09 per cent. For the draft decision, the AER has determined a nominal vanilla WACC of 10.14 per cent for

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320 AER, *Final decision: WACC review*, 1 May 2009, p. 126.

321 ACCC, *Final decision: Revised access arrangement by GasNet Australia (Operations) Pty Ltd and GasNet (NSW) Pty Ltd for the Principal Transmission System*, 30 April 2008, p. 71.

322 AER, *Final decision: WACC review*, 1 May 2009, p. 113.

323 NGR, r. 74(2).

324 AER, *Final decision: WACC review*, 1 May 2009, p. xix.

325 ActewAGL, *Access arrangement information*, June 2009, s. 8.1.3, p. 148.

326 ActewAGL, *Access arrangement information*, June 2009, s. 8.1.3, p. 148.

327 ActewAGL, *Access arrangement information*, June 2009, s. 8.1.3, footnote 80, p. 148.

328 ActewAGL, *Access arrangement information*, June 2009, s. 8.1.3, p. 148.

329 In particular, the AER notes that gamma is estimated at a market wide level, so there is no difference between electricity and gas service providers. Details of the AER's consideration of gamma are provided in appendix B. See also AER, *Final decision: WACC review*, 1 May 2009, chapter 10.

ActewAGL. The WACC is less than that proposed by ActewAGL due to the amendments required to parameters such as the nominal risk-free rate, equity beta, market risk premium and debt risk premium.

Table 5.3 outlines the WACC parameter values for this draft decision. The AER's final decision will update the nominal risk-free rate and debt risk premium (and all values that depend on these parameters), based on the averaging period closer to the final decision date as stated in confidential appendix A. The AER's final decision will also update the inflation rate as outlined earlier in this chapter.

5.12 Conclusion

The AER does not propose to approve the rate of return on capital proposed by ActewAGL as it does not comply with r. 87 of the NGR and requires ActewAGL to make the amendments set out below.

5.13 Amendments required to the access arrangement proposal

Before the access arrangement proposal can be accepted, ActewAGL must make the following amendments:

Amendment 5.1: delete clause 4.3 of the access arrangement proposal and replace it with the following:

> Price paths were determined (using a nominal vanilla weighted average cost of capital) that result in a return on capital over the period of the access arrangement as detailed in the access arrangement information.

Amendment 5.2: delete the rate of return in chapter 8 of the access arrangement information and replace it with the following:

Table 5.3: WACC parameters

Parameter	AER's draft decision
Nominal risk-free rate (%)	5.49[a]
Inflation (%)	2.45[b]
Real risk-free rate (%)	2.97[a]
Equity beta	0.8
Market risk premium (%)	6.5
Debt risk premium (%)	4.28[a]
Debt share of total value (gearing) (%)	60
Nominal return on equity (%)	10.69[a]
Nominal return on debt (%)	9.77[a]
Nominal vanilla WACC (%)	10.14[a]
Gamma (utilisation of imputation credits)	0.65

a: These figures have been updated with data current to 23 October 2009, but should be considered indicative only. They will be updated for the final decision (in accordance with the averaging period set out in confidential appendix A).

b: This figure will be updated for the final decision using the latest data from the RBA statement of monetary policy.

6 Taxation

6.1 Introduction

This chapter sets out ActewAGL's submissions and the AER's analysis and consideration of ActewAGL's estimated cost of corporate income taxation for the access arrangement period.

6.2 Regulatory requirements

Rule 72(1)(h) of the NGR provides that the access arrangement information for a full access arrangement proposal must include the proposed method for dealing with taxation, and a demonstration of how the allowance for taxation is calculated.

Rule 76(c) of the NGR provides for the estimated cost of corporate taxation as a building block for the total revenue.

6.3 ActewAGL's proposal

ActewAGL proposes using a post-taxation framework to estimate total revenue. It includes a taxation building block in its total revenue estimate.

ActewAGL used a pre-taxation framework in the previous access arrangement period. In order to transition to a post-taxation framework it is necessary to estimate the value of the taxation asset base as at the commencement of the access arrangement period. To estimate the taxation value of the capital base, ActewAGL has used actual taxation asset values as at the date on which it first came under the national taxation equivalent regime (NTER), 1 July 2001, and has rolled this taxation asset base forward to 30 June 2010 using actual and forecast capital expenditure, capital contributions, disposals and taxation depreciation.[330]

ActewAGL proposes estimating taxation depreciation on a straight line basis using effective lives published by the Australian Taxation Office.[331]

A summary of ActewAGL's proposed taxation asset base is set out in Table 6.1.

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330 ActewAGL, *Access arrangement information*, June 2009, p. 216.

331 ActewAGL, *Access arrangement information*, June 2009, p. 217.

Table 6.1: Taxation asset base roll forward summary

	Standard life (years)	Value as at 1 July 2001 ($m, nominal)	Taxation asset age as at 1 July 2001 ($m, nominal)
TRS and DRS – valves and regulators	40	1.7	27.1
HP mains	50	29.9	38.3
MP mains	50	119.6	37.4
Meters – tariff	15	7.1	9.4
Meters – contract	15	1.0	9.4
MP services	30	9.1	25.3
HP services	30a	0.2	44.4
IT systems	5	0	na
Regulatory costs	5	0	na

Source: ActewAGL, *Access arrangement information*, June 2009, p. 217 and ActewAGL, *Taxation asset base roll forward*, June 2009 (confidential).
na: Not applicable.
a: Thirty years is shown in the access arrangement information while 50 years has been used by ActewAGL in its modelling.

ActewAGL proposes to estimate the cost of corporate income taxation for each year of the access arrangement period using the following method:

$$ETCt = (ETIt \times rt)(1 - \gamma)$$

where:

ETCt is the estimated cost of corporate income taxation for year t.

ETIt is the estimate of taxable income for year t.

rt is the expected statutory income taxation rate for the year t.

γ is the assumed utilisation of imputation credits, set at 0.65.

The estimated cost taxation for each year of the access arrangement period is set out in Table 6.2.

Table 6.2: Estimated cost of corporate income taxation ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15
Estimated cost of corporate income taxation	1.2	1.4	1.6	2.0	2.0

Source: ActewAGL, *Access arrangement information*, June 2009, p. 219.

6.4 AER's analysis and considerations

As ActewAGL previously used a pre-taxation framework, the transition to a post-taxation framework requires the estimation of a taxation asset base at the start of the access arrangement period. ActewAGL's approach to setting the taxation asset base reflects the approach outlined by the AER in its issue paper on transitioning from pre-taxation to post-taxation frameworks.[332]

ActewAGL's cost of corporate income taxation is estimated using the AER's PTRM model. Taxable income is represented by total revenue (estimated in accordance with r. 76 of the NGR) less taxation expenses and taxation losses carried forward.

Taxation depreciation is estimated by ActewAGL using the PTRM based on ActewAGL's proposed remaining lives, standard lives, asset base and capital expenditure relevant for taxation purposes. The AER has reviewed and considers that ActewAGL's proposed taxation values for remaining lives, standard lives and the asset base are reasonable. However, the AER notes that while a standard life of 50 years for high pressure services for taxation purposes is used to determine taxation depreciation, this has not been accurately reflected in ActewAGL's proposed access arrangement information.[333] Specifically, in Table 10.6 of the access arrangement information, 30 years is given as the taxation standard life for high pressure services.[334] The AER does not consider the best estimate possible in the circumstances has been used, as required by r. 74(2)(b).

After estimating taxable income, taxation payable is determined by applying the corporate income taxation rate of 30 per cent to taxable income. The estimate of the cost of corporate income taxation, for use as a total revenue building block, is arrived at by reducing the taxation payable by the value of imputation credits. The value of imputation credits is further discussed in chapter 5.

6.5 Conclusion

The AER does not propose to approve the proposed estimated cost of corporate taxation for each regulatory year of the access arrangement period as it does not comply with r. 76(c) and r. 74(2) of the NGR, and requires ActewAGL to make the amendment set out below.

6.6 Amendments required to the access arrangement proposal

Before the access arrangement proposal can be accepted, ActewAGL must make the following amendment:

Amendment 6.1: delete the taxation standard life for high pressure services in Table 10.6 of the access arrangement information and replace it with 50 years.

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332 AER, *Electricity Distribution Network Service Providers: Transition of energy businesses from pre-tax to post-tax regulation*, June 2007, pp. 51–53.

333 ActewAGL, *Access arrangement information*, June 2009, p. 217.

334 ActewAGL, *Access arrangement information*, June 2009, p. 217.

7 Incentive mechanism

7.1 Introduction

This chapter sets out ActewAGL's submissions and the AER's analysis and consideration of ActewAGL's proposed carryover of increments and decrements as well as particulars of its incentive mechanism including its rationale.

7.2 Regulatory requirements

Rule 72(1)(i) of the NGR provides that the access arrangement information for a full access arrangement proposal must, if an incentive mechanism operated for the previous access arrangement period, include the proposed carryover of increments for efficiency gains or decrements for efficiency losses in the previous access arrangement period and a demonstration of how allowance is to be made for any such increments or decrements. Rule 72(1)(l) of the NGR provides that the access arrangement information for a full access arrangement proposal must include the service provider's rationale for any proposed incentive mechanism.

Rule 98(1) of the NGR provides that a full access arrangement may include (and the AER may require it to include) one or more incentive mechanisms to encourage efficiency in the provision of services by the service provider. Rule 98(2) of the NGR provides that an incentive mechanism may provide for carrying over increments for efficiency gains and decrements for losses of efficiency from one access arrangement period to the next. Rule 98(3) of the NGR provides that an incentive mechanism must be consistent with the revenue and pricing principles.

7.3 ActewAGL's proposal

7.3.1 General approach

ActewAGL proposes to retain the current incentive mechanism relating to the use of forecast demand in the access arrangement period.[335] ActewAGL also proposes to introduce a rolling carryover incentive mechanism in the access arrangement period. It submits that this will retain efficiency gains or losses for five years following the year of the gain or loss.[336] ActewAGL proposes applying a carryover incentive mechanism to both capital and operating expenditure.

7.3.2 Rolling carryover mechanism

7.3.2.1 Calculating efficiency gains or losses

ActewAGL proposes that capital expenditure–related efficiency gains or losses in any year be calculated as follows:

$$\text{Efficiency Gain} = \text{WACC} \times (\text{Capex}_{i\ \text{Forecast}} - \text{Capex}_{i\ \text{Actual}}) \qquad \text{(A)}$$[337][338]

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335 ActewAGL, *Access arrangement information*, June 2009, p. 221.

336 ActewAGL, *Access arrangement information*, June 2009, p. 222.

337 ActewAGL, *Access arrangement proposal*, June 2009, p. 19.

ActewAGL proposes that operating expenditure–related efficiency gains or losses in any year be calculated as follows:

$$\text{Efficiency Gain} = \text{Underspending}_i - \text{Underspending}_{i-1} \quad \text{(B)}$$

$$\text{Where Underspending}_i = \text{Opex}_{i\ \text{Forecast}} - \text{Opex}_{i\ \text{Actual}} \quad \text{(C)}$$ [339]

7.3.2.2 Treatment of final year of access arrangement period

Carryover amounts from the access arrangement period will form part of total revenue in the following access arrangement period. However, the carryover amounts for the following access arrangement period are calculated prior to the expiration of the access arrangement period. Therefore, it is not possible for ActewAGL to know its actual expenditure for the final year of the access arrangement period. ActewAGL proposes to assume that actual capital expenditure in the final year of the access arrangement period is equal to the forecast for that year.[340]

As ActewAGL is not able to forecast the actual operating expenditure for the final year of the access arrangement period, it proposes to use an estimate. The estimate is arrived at by taking the forecast value of operating expenditure for year five of the access arrangement period and adjusting it for the difference between forecast and actual operating expenditure in year four of the access arrangement period.[341]

7.3.2.3 Adjustments

ActewAGL proposes to adjust forecast expenditures when calculating operating expenditure and capital expenditure carryover amounts. It submits that this will be done to take into account changes in the scope of its activities and any differences between the actual and forecast number of customer connections.[342]

7.3.2.4 Exclusions

ActewAGL proposes to exclude certain capital expenditure from the operation of the incentive mechanism. These are equity raising costs and capital expenditure amounts approved under cost pass through events.[343]

ActewAGL also proposes to exclude certain categories of operating expenditure from the incentive mechanism. These are: debt raising costs; self insurance costs; insurance costs; superannuation costs; payments made in respect of UAG; AEMO fees; utilities network facility tax costs; the energy industry levy; and amounts for approved cost pass through events related to operating expenditure items.[344]

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338 The AER has annotated these equations so they can be identified more easily for consideration in the draft decision document.

339 ActewAGL, *Access Arrangement proposal*, June 2009, p. 20.

340 ActewAGL, *Access arrangement proposal*, June 2009, p. 21.

341 ActewAGL, *Access arrangement proposal*, June 2009, p. 21.

342 ActewAGL, *Access arrangement proposal*, June 2009, p. 21.

343 ActewAGL, *Access arrangement proposal*, June 2009, pp. 21–22.

344 ActewAGL, *Access arrangement proposal*, June 2009, p. 21.

7.4 AER's analysis and considerations

7.4.1 General approach

ActewAGL submitted that the use of forecast demand in the access arrangement period acts as an incentive mechanism.[345] The AER considers that this does not provide an incentive to encourage the efficient provision of services by the service provider, as is set out in r. 98 of the NGR, beyond those inherent in the incentive framework of the NGR.

The AER considers an incentive mechanism should provide balanced incentives to encourage efficiency across both capital and operating expenditure. However, given the scope to defer capital expenditure because of forecasting errors, this may not be achievable in practice for capital expenditure.

7.4.1.1 Capital expenditure

The AER has assessed ActewAGL's proposal for an incentive mechanism to be applied to capital expenditure on the same basis as the efficiency incentive mechanism for operational expenditures and has determined that the mechanism would deliver inappropriate incentives to defer capital expenditure rather than to improve the cost effective delivery of capital expenditures. Capital expenditures are largely related to specific projects and the timing of these projects can be discretionary. By comparison operational expenditures have a recurring nature to them which means that efficiency improvements will be ongoing. ActewAGL is already provided with an incentive to deliver its forecast capital below the allowance provided in the access arrangement. In these circumstances users benefit as the capital expenditure is rolled into the regulatory asset base and this is less than what it otherwise would have been.

7.4.1.2 Operating expenditure

The AER considers that the inclusion of operating expenditure in a carry over mechanism as proposed by ActewAGL is consistent with r. 98 and provides ActewAGL with effective incentives in order to promote economic efficiency with respect to reference services provided (s. 24 of the NGL).

In the discussion below, the carry over incentive mechanism only relates to operating expenditure.

7.4.2 Rolling carryover mechanism for operating expenditure

7.4.2.1 Calculating efficiency gains or losses

The AER considers that ActewAGL's proposed approach to calculating efficiency gains or losses is generally acceptable to the AER. However, some changes are needed to properly account for the calculation of efficiency gains in the first year of the access arrangement period.

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345 ActewAGL, *Access arrangement proposal*, June 2009, p. 18.

The AER considers that ActewAGL's proposed approach to calculating efficiency gains or losses can be expressed as the following equation:

$$E_i = (F_i - A_i) - (F_{i-1} - A_{i-1}) \quad \text{(D)}$$

where:

E_i is the efficiency gain in year i of the access arrangement period.

F_i is the forecast operating expenditure in year i of the access arrangement period.

A_i is the actual operating expenditure in year i of the access arrangement period.

The AER considers that this equation is not correct for the first year of the first access arrangement period. Instead, the efficiency gain should be calculated as:

$$E_1 = (F_1 - A_1) \quad \text{(E)}$$

where:

E_1 is the efficiency gain in year one of the first access arrangement period.

F1 is the forecast operating expenditure in year one of the first access arrangement period.

A1 is the actual operating expenditure in year one of the first access arrangement period.

This equation would apply for the first year of ActewAGL's access arrangement period, 2010–11. This amendment to the access arrangement proposal is required for consistency with r. 98(3) of the NGR and the promotion of economic efficiency with respect to reference services provided, as set out in the revenue and pricing principles at s. 24 of the NGL.

7.4.2.2 Treatment of final year of access arrangement period

ActewAGL's proposes to accommodate the fact that the cost reduction, or increase, for the final year of an access arrangement period will not be known when calculating the carryover amounts. The AER considers that the estimate of operating expenditure in year five can be expressed as:

$$A_5^* = F_5 - (F_4 - A_4) \quad \text{(F)}$$

where:

A5* is the estimate of operating expenditure for the final year of the access arrangement period.

F5 is forecast operating expenditure for the final year of the access arrangement period.

F4 is the forecast operating expenditure for the penultimate year of the access arrangement period.

A4 is the actual operating expenditure for the penultimate year of the access arrangement period.

The access arrangement period is 1 July 2010 to 30 June 2015.

Equation F represents the assumption that no additional efficiency gain is made in the last year of the access arrangement period so that no carryover amount is generated in the last year of the access arrangement period. That there is no carryover amount can be demonstrated by substituting equation F into equation D:

$$E_5 = (F_5 - A_5^*) - (F_4 - A_4) \quad (G)$$

$$= (F_5 - F_5 + F_4 - A_4) - (F_4 - A_4) \quad (H)$$

$$= F_5 - F_5 + F_4 - A_4 - F_4 + A_4 \quad (I)$$

$$= 0 \quad (J)$$

Further, where differences arise between the estimated and the actual operating expenditure in the final year of the access arrangement period, the efficiency gain or loss in the first year of the following access arrangement period should be estimated as:

$$E_6 = (F_6 - A_6) - (F_5 - A_5) + (F_4 - A_4) \quad (K)$$

where:

E6 is the efficiency gain in the first year of the following access arrangement period.

F6 is forecast operating expenditure for the first year of the following access arrangement period.

A6 is the actual operating expenditure for the first year of the following access arrangement period.

F5 is forecast operating expenditure for the final year of the first access arrangement period.

A5 is the actual operating expenditure for the final year of the first access arrangement period.

F4 is the forecast operating expenditure for the fourth year of the first access arrangement period.

A4 is the actual operating expenditure for the fourth year of the first access arrangement period.

Equation K offsets the implicit carryover amount for efficiency gains or losses made in the final year of the first access arrangement period. These gains or losses are already implicitly rewarded through a higher, or lower, forecast operating expenditure than would be the case if expenditure in the last year of the access arrangement period was known. This implicit carryover amount must be offset to avoid double counting.

Equation K first applies in the first year of the access arrangement period 1 July 2015 to 30 June 2020 and for the first year of subsequent access arrangement periods.

The AER considers that the approach above, which assumes no additional efficiency gain in the final year of the access arrangement period and offsets the implicit carryover amount in the following access arrangement period, is consistent with r. 98(3) of the NGR and provides a means to promote economic efficiency in the provision of reference services. In addition it provides for an estimate of a carry over amount in the absence of information about the actual operating expenditure from the last year of the access arrangement period that is arrived at on a reasonable basis in accordance with r. 74(2) of the NGR.

7.4.2.3 Adjustments

ActewAGL's proposed adjustments for forecasts of operating expenditure are reasonable. However, the AER recognises that in only applying the carry over mechanism to operating expenditure, there may be an incentive to shift operating expenditure to capital expenditure. This incentive will need to be addressed through ActewAGL's approach to classifying costs as either capital expenditure or operating expenditure (which is referred to as the capitalisation policy by ActewAGL).[346]

First, the AER considers that if ActewAGL's approach to classifying costs as either capital expenditure or operating expenditure change during the access arrangement period, ActewAGL must adjust the forecast operating expenditure so that the forecast operating expenditure is consistent with the changes that reclassify operating expenditure as capital expenditure. The forecast and actual operating expenditure figures used to calculate the carry over amounts will be adjusted to account for any changes in the approach to classifying costs as either capital expenditure or operating expenditure. This will address any incentive to capitalise operating expenditure which is not consistent with the revenue and pricing principles in s. 24 of the NGL (and therefore inconsistent with r. 98(3) of the NGR) since it would impact economic efficiency with respect to reference services ActewAGL provides.

Second, to facilitate this adjustment the AER requires ActewAGL to provide its approach to classifying costs as either capital expenditure or operating expenditure for the access arrangement period and to advise it of any changes to this approach over the access arrangement period as part of its incentive mechanism. In addition, ActewAGL is required to maintain a statement of operating expenditure costs which provides detailed information about the operating expenditure (controllable and uncontrollable) as provided for in the draft decision on operating expenditure. The AER considers that an important element of this information is capturing the nature and quantum of any reclassification of operating expenditure and capital expenditure. To this end, one requirement will be that ActewAGL maintains, as part of its statement of operating costs, information about the costs that are reclassified between capital expenditure and operating expenditure over the access arrangement period. This information will necessarily need to include a detailed description of the reclassifications made in the access arrangement period.

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346 ActewAGL, *Access arrangement information*, June 2009, appendix Q.3 (confidential).

These amendments to the access arrangement proposal which provide for adjustments to forecast and actual expenditure for changes in the capitalisation policy and also require the maintenance of information over the access arrangement period are required to provide for an estimate arrived at on a reasonable basis[347] and for the promotion of economic efficiency with respect to reference services provided.[348]

The AER notes that the amendments referable to the statement of operating expenditure are provided for in amendments 9.3 and 9.4.

7.4.2.4 Exclusions

The AER does not consider that an incentive mechanism is consistent with promoting economic efficiency with respect to reference services provided,[349] if a service provider receives benefits or penalties through an incentive mechanism for variances in costs over which it has no control. It is not appropriate to use an incentive mechanism for certain costs because some costs cannot be controlled by the service provider. The AER considers ActewAGL's proposed exclusions to be reasonable and consistent with the uncontrollable costs identified in the access arrangement period. However, the AER considers that, in the future, any as yet undefined uncontrollable costs must be considered on a case-by-case basis to determine whether they should be excluded or not.

The incentive mechanism proposal will need to be amended to address this matter as outlined below. In addition, as part of its statement of operating expenditure costs ActewAGL will need to maintain information that captures new cost categories and classify these cost categories into controllable or uncontrollable costs. This will assist in ensuring the incentive mechanism continues to promote economic efficiency with respect to reference services provided as required by s. 24 of the NGL and r. 98(3) of the NGR.

The AER notes that the amendments referable to the statement of operating expenditure are provided for in amendments 9.3 and 9.4.

7.4.3 Summary

The AER considers that ActewAGL's current incentive mechanism, relating to the use of forecast demand in the access arrangement period, does not encourage efficiency in the provision of services by the service provider, as is set out in r. 98 of the NGR, beyond those inherent in the NGR.

The AER considers that, with amendments to address the issues outlined, the carry over mechanism applied to controllable operating expenditure will be consistent with s. 24 of the NGL and r. 98(3) of the NGR:

- excluding capital expenditure from the carryover incentive mechanism

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347 NGR, r. 74(2).

348 NGL, s. 24 and NGR, r. 98(3).

349 NGL, s. 24(3).

- ensuring that the carryover mechanism does not include uncontrollable operating expenditure over the access arrangement period
- appropriately classifying and maintaining costs to account for capital expenditure that is reclassified to operating expenditure, and
- adjustment to the operation of the carryover incentive mechanism for the first and final year of an access arrangement period.

7.5 Conclusion

The AER does not propose to approve the incentive mechanism proposed by ActewAGL as it does not comply with r. 98 of the NGR and requires ActewAGL to make the amendments set out below.

7.6 Amendments required to the access arrangement proposal

Before the access arrangement proposal can be accepted, ActewAGL must make the following amendments:

Amendment 7.1: delete paragraphs 4.6–4.10 in the access arrangement proposal.

Amendment 7.2: amend paragraph 4.11 in the access arrangement proposal to state that carryover amounts for the first year of the access arrangement period will be estimated using the following equation:

$E_1 = (F_1 – A_1)$

where:

E_1 is the efficiency gain in one year of the first access arrangement period.

F_1 is the forecast operating expenditure in year one of the first access arrangement period.

A_1 is the actual operating expenditure in year one of the first access arrangement period.

Amendment 7.3: ActewAGL must delete and replace paragraph 4.11 in the access arrangement proposal to state that carryover amounts in the last year of the access arrangement period are to be estimated using the following equation:

$A_5* = F_5 – (F_4 – A_4)$

where:

A_5* is the estimate of operating expenditure for the final year of the access arrangement period.

F_5 is forecast operating expenditure for the final year of the access arrangement period.

F_4 is the forecast operating expenditure for the penultimate year of the access arrangement

period.

A_4 is the actual operating expenditure for the penultimate year of the access arrangement period.

Amendment 7.4: delete and replace paragraph 4.11 in the access arrangement proposal to state that carryover amounts in the second, third and fourth years of the access arrangement period are to be estimated using the following equation:

$E_i = (F_i – A_i) – (F_{i–1} – A_{i–1})$

where:

E_i is the efficiency gain in year i of the access arrangement period.

F_i is the forecast operating expenditure in year i of the access arrangement period.

A_i is the actual operating expenditure in year i of the access arrangement period.

Amendment 7.5: delete and replace paragraph 4.11 in the access arrangement proposal to state that the carryover amount for the first year of the access arrangement period commencing 1 July 2015 is to be estimated using the following equation:

$E_6 = (F_6 – A_6) – (F_5 – A_5) + (F_4 – A_4)$

where:

E_6 is the efficiency gain in the first year of the following access arrangement period.

F_6 is forecast operating expenditure for the first year of the following access arrangement period.

A_6 is the actual operating expenditure for the first year of the following access arrangement period.

F_5 is forecast operating expenditure for the final year of the first access arrangement period.

A_5 is the actual operating expenditure for the final year of the first access arrangement period.

F_4 is the forecast operating expenditure for the fourth year of the first access arrangement period.

A_4 is the actual operating expenditure for the penultimate year of the first access arrangement period.

Amendment 7.6: amend the access arrangement proposal to include a statement after paragraph 4.13 that, if ActewAGL changes its approach to classifying costs as either capital expenditure or operating expenditure during the access arrangement period then, ActewAGL must adjust the forecast operating expenditure so that the forecast operating expenditure is consistent with the changes that reclassify operating expenditure to capital

expenditure.

Amendment 7.7: amend the access arrangement proposal to include a statement after paragraph 4.13 that, if there is a change in ActewAGL's approach to classifying costs as either capital expenditure or operating expenditure ActewAGL must provide a detailed description of the change and a calculation of its impact on forecast and actual operating expenditure as part of its access arrangement submission relevant to the access arrangement period for which it is seeking a carryover amount.

8 Fixed principles

8.1 Introduction

This chapter sets out ActewAGL's proposal and the AER's analysis and consideration of ActewAGL's proposed new fixed principles.

An access arrangement may include principles that are fixed for a stated period. The period may extend over two or more access arrangement periods. Fixed principles approved by the AER are binding on the AER and the service provider for the period for which the principles are fixed.

8.2 Regulatory requirements

The NGR provides that:

- a full access arrangement may include a principle declared to be fixed for a stated period[350]
- a principle may be fixed for a period extending over two or more access arrangement periods[351]
- a fixed principle approved before the commencement of the NGR, or approved by the AER under the NGR, is binding on the AER and the service provider for the period for which the principle is fixed,[352] and
- the AER may vary or revoke a fixed principle at any time with the service provider's consent. If a rule of the NGR is inconsistent with a fixed principle, the rule operates to the exclusion of the fixed principle.[353]

8.3 ActewAGL's proposal

ActewAGL proposes a number of new fixed principles[354] to apply for the access arrangement period and the subsequent access arrangement period under r. 99 of the NGR.

Fixed principles from the earlier access arrangement period only applied for the earlier access arrangement period. ActewAGL does not propose that any fixed principles from the earlier access arrangement period apply for the access arrangement period.

ActewAGL proposes the following fixed principles:

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350 NGR, r. 99(1).

351 NGR, r. 99(2).

352 NGR, r. 99(3).

353 NGR, r. 99(4).

354 ActewAGL, *Access arrangement information*, June 2009, p. 266; ActewAGL, *Access arrangement proposal*, June 2009, clause 4.28, p. 24.

- the carryover into the access arrangement period after the revisions commencement date of any cost savings or overspend in relation to the proposed incentive mechanism for capital expenditure[355] and operating expenditure[356]

- ActewAGL may increase the capital base at the revisions commencement date, in accordance with clauses 4.18 to 4.21 of the access arrangement proposal, and[357]

- ActewAGL may recover costs related to a cost pass–through event (pursuant to part 6 of the access arrangement proposal), where that recovery extends beyond the revisions commencement date for the access arrangement.[358]

8.4 AER's analysis and considerations

The carryover of cost savings or overspend in relation to the proposed incentive mechanism for capital expenditure is provided for by clauses 4.8 and 4.9 of the access arrangement proposal. As discussed in chapter 7 of this draft decision, the AER does not consider that the specific proposed incentive mechanism should apply to capital expenditure and that clauses 4.8 and 4.9 should be removed from the access arrangement proposal.[359] For this reason the AER considers that references to clauses 4.8 and 4.9 should be removed from clause 4.27(a) of the access arrangement proposal.

The carryover of cost savings or overspends in relation to the proposed incentive mechanism for operating expenditure is provided for by clauses 4.12 and 4.13 of the access arrangement proposal. The AER considers that any carryover of operating expenditure cost savings or overspends must incorporate changes to clause 4.13, as set out in chapter 6 of the draft decision. Therefore, subject to the required amendments to clause 4.13 set out in chapter 7 of the draft decision and the deletion of references to clauses 4.8 and 4.9, the AER accepts clause 4.27(a) as a fixed principle for the access arrangement period and the next access arrangement period.

Clause 4.27(b) of the access arrangement proposal provides that the increase of the capital base in accordance with clauses 4.18 to 4.21 of the access arrangement proposal is a fixed principle. For the reasons given in chapter 3 of the draft decision, the AER considers that clauses 4.18 to 4.21 of the access arrangement proposal must be amended. Subject to the amendments to clause 4.18 and 4.21, the AER accepts clause 4.27(b) of the access arrangement proposal as a fixed principle.

The recovery across access arrangement periods of costs related to a cost pass–through (pursuant to part 6 of the access arrangement proposal) is provided for by clause 4.27(c) of the access arrangement proposal. A cost pass through event is considered as a reference tariff variation mechanism. There are several rules in the

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355 ActewAGL, *Access arrangement proposal*, June 2009, clauses 4.8, 4.9 and 4.27(a).

356 ActewAGL, *Access arrangement proposal,* June 2009, clauses 4.12, 4.13 and 4.27(a).

357 ActewAGL, *Access arrangement proposal,* June 2009, clause 4.27(b).

358 ActewAGL, *Access arrangement proposal*, June 2009, clause 4.27(c).

359 The AER does, however, note that the incentive framework of the NGR has implicit incentives for capital expenditure.

NGR which make this fixed principle inoperable and inconsistent with the NGR as existing rules operate in accordance with r. 99(4)(b) to exclude the fixed principle.

First, the operation of tariff variation mechanism for cost pass throughs in the access arrangement period provides for cost pass throughs that are incurred during the access arrangement period. The purpose of the tariff variation mechanism is to equalise in present value terms the forecast revenue from reference services and the proportion of total revenue allocated to reference services over the access arrangement period.[360] The fixed principle proposes that this nexus is broken and that costs incurred in a future access arrangement period may be recouped as part of a tariff variation mechanism in the earlier access arrangement period. On the information available to it the AER considers it unclear as to how the requirements of r. 92(2) of the NGR are met under the proposed fixed principle for cost pass throughs.

Second, r. 97(5) of the NGR provides that except for a reference tariff variation mechanism, a reference tariff cannot vary during the course of an access arrangement period. The AER considers this provides that a reference tariff can only change within an access arrangement period in accordance with the approved tariff variation mechanism. However, the proposed fixed principle will mean tariffs will not only vary in accordance with an approved tariff variation mechanism for the access arrangement periodbut may also vary with the tariff variation mechanism for the earlier access arrangement period. The AER assumes that this will be the case because the tariff variation mechanism will not be the same from one access arrangement period to the next and therefore the proposed fixed principle for cost pass through events does not mee the requirements of r. 97(5) of the NGR.

Third, as outlined in chapter 1 of this decision, the proposed tariff variation mechanism provides for material costs that are incurred in the access arrangement period to be passed through if approved by the AER at any time during the year of the access arrangement period. The proposed tariff variation mechanism provides a means for ActewAGL to recover those costs incurred in the relevant access arrangement period. Costs that are not incurred in the access arrangement period but which ActewAGL considers may be recovered in a future access arrangement period can be considered as part of a cost pass through mechanism or if they can be estimated or forecast with some certainty should be included as forecast capital expenditure or operating expenditure in that future access arrangement period, subject to the relevant requirements of the NGR.

8.5 Conclusion

The AER does not propose to approve the fixed principles proposed by ActewAGL as these do not comply with r. 99 of the NGR and requires ActewAGL to make the amendments set out below.

[360] NGR, r. 92(2).

8.6 Amendments required to the access arrangement proposal

Before the access arrangement proposal can be accepted, ActewAGL must make the following amendments:

Amendment 8.1: delete references to clauses 4.8 and 4.9 in clause 4.27(a) in the access arrangement proposal.

Amendment 8.2: delete clause 4.27(c) in the access arrangement proposal.

9 Operating expenditure

9.1 Introduction

Operating expenditure includes the operating, maintenance and other costs as well as expenditure of a non-capital nature incurred in providing pipeline services. Operating expenditure may include expenditure incurred in increasing long-term demand for pipeline services and otherwise in developing the market for pipeline services.[361]

This chapter sets out ActewAGL's proposal, submissions and the AER's analysis and considerations of ActewAGL's proposed operating expenditure.

9.2 Regulatory requirements

Rule 72(1)(a)(ii) and 72(1)(e) of the NGR provides that the access arrangement information for a full access arrangement proposal must include:

- if the access arrangement period commences at the end of an earlier access arrangement period, operating expenditure (by category) over the earlier access arrangement period
- a forecast of operating expenditure over the access arrangement period and the basis of which the forecast has been derived.

Rule 72(1)(f) of the NGR provides that the access arrangement information for a full access arrangement proposal must include the key performance indicators to be used by the service provider to support expenditure to be incurred over the access arrangement period.

Rule 91 of the NGR provides that operating expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

9.3 ActewAGL's proposal

9.3.1 Earlier access arrangement period

The AER is not required to assess whether ActwAGL's operating expenditure in the earlier access arrangement period was prudent. An overview of actual operating expenditure is included as it provides context to ActewAGL's forecast operating expenditure. ActewAGL's total operating expenditure during the earlier access arrangement period is expected to be $101.0 million ($2009–10).[362] This is $11.1 million ($2009–10) or 12.3 per cent greater than the amount approved by the ICRC. However, the overspend was a result of the introduction of the utilities network facilities tax (UNFT) which contributed $12.7 million ($2009–10) to total operating expenditure.

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361 NGR, r. 69.

362 Total operating expenditure for the full six year period (2005–06 to 2009–10) covering the earlier access arrangement period. The earlier access arrangement period is from 1 January 2005 to 30 June 2010.

As ActewAGL was able to fully recover the value of the UNFT by way of a pass–through mechanism, ActewAGL submits that it will effectively underspend the ICRC allowance by $1.6 million ($2009–10) or 1.8 per cent.[363]

ActewAGL submits that controllable operating costs are expected to be $2.0 million ($2009–10) or 2.5 per cent below the ICRC's provision in the previous access arrangement decision. Marketing expenditure is expected to be $3.0 million ($2009–10) less than forecast, while corporate overheads are expected to be $1.6 million ($2009–10) higher due to the sale of ActewAGL's corporate head office and the subsequent introduction of lease expenses.[364]

The cost of unaccounted for gas (UAG), a controllable cost, exceeds the amount allowed for by the ICRC resulting in an overspend of $1.2 million ($2009–10).[365]

9.3.2 Forecast operating expenditure

ActewAGL forecasts total operating expenditure of $119.0 million ($2009–10). This represents an increase of 36.7 per cent[366] in real terms above the expected actual total operating expenditure for the earlier access arrangement period. Over the access arrangement period the total forecast operating expenditure increases by an average of 4.6 per cent per annum in real terms.

ActewAGL proposes several step changes to its operating expenditure including gas market operation costs and regulation costs. It also proposes various project specific costs in the access arrangement period. Further, ActewAGL proposes increases in real terms for operating expenditure associated with corporate overheads, marketing, the UNFT, contestability, UAG and 'other' costs. ActewAGL also proposes to introduce self insurance and debt raising costs in its forecast operating expenditure.

ActewAGL's forecast operating expenditure for the access arrangement period is set out in Table 9.1.

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363 ActewAGL, *Access arrangement information*, June 2009, p. 159.

364 ActewAGL, *Access arrangement information*, June 2009, p. 159.

365 ActewAGL, *Access arrangement information*, June 2009, p. 159.

366 Calculated using total operating expenditure for the five year period 2005–06 to 2009–10 instead of the six year period covering the earlier access arrangement period.

Table 9.1: ActewAGL's forecast operating expenditure ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
Controllable costs						
Operating and maintenance	9.6	11.4	11.8	10.6	10.9	54.4
Corporate overheads	3.3	3.4	3.5	3.6	3.6	17.4
Non-system asset charge	0.5	0.5	0.5	0.5	0.5	2.6
Marketing	1.3	1.3	1.4	1.4	1.4	6.8
Other controllable costs	0.2	0.2	0.2	1.0	0.8	2.6
Sub total	15.0	17.0	17.4	17.1	17.3	83.7
Non-controllable costs[a]						
Government levies	0.7	0.7	0.7	0.7	0.7	3.5
Utilities Network Facilities Tax	3.4	3.5	3.5	3.6	3.6	17.5
Contestability costs	0.6	0.6	0.6	0.6	0.6	3.0
Unaccounted for gas	1.2	1.2	1.2	1.3	1.3	6.3
Other costs	0.3	0.3	0.3	0.3	0.3	1.3
Debt raising costs	0.2	0.2	0.2	0.3	0.3	1.1
Self insurance costs	0.5	0.5	0.5	0.5	0.5	2.7
Sub total	6.8	6.9	7.1	7.2	7.3	35.3
Total operating expenditure	**21.8**	**23.9**	**24.5**	**24.3**	**24.6**	**119.0**

Source: ActewAGL, *Access arrangement information*, June 2009, p. 209.
a: ActewAGL refer to non-controllable costs as other allowable costs.

9.4 Consultant's report

The AER engaged Wilson Cook to review ActewAGL's forecast operating expenditure. Wilson Cook was required to advise on the value and/or nature of ActewAGL's forecast operating expenditure with reference to expenditure that would be incurred by a prudent service provider acting efficiently in accordance with good industry practice to achieve the lowest sustainable cost of providing services.[367] Wilson Cook was also required to assess the reasonableness of ActewAGL's past operating expenditure where past operating expenditure has been used as a basis to establish ActewAGL's forecast operating expenditure.

[367] NGR, r. 91.

In particular, Wilson Cook was required to review ActewAGL's forecast controllable operating expenditure (excluding UNFT expenditure, debt raising costs, self insurance and other non-controllable costs).[368] This included projects or programmes undertaken by JAM on behalf of ActewAGL.[369] Wilson Cook was also required to review the level of UAG forecast for the network.

The report prepared by Wilson Cook[370] concludes that it was not possible to review ActewAGL's controllable operating expenditure in the way envisaged by the AER because of insufficient information.[371] However, the Wilson Cook Report did review the normalisation adjustments made in ActewAGL's benchmarking analysis and the proposed step changes related to technical matters.[372] On these two matters, the Wilson Cook Report concludes that:

- ActewAGL's benchmarking analysis suggests that prima facie ActewAGL operates with a cost structure that is within the levels of confidence in the benchmarking. However, the Wilson Cook Report notes that there is a lack of a bottom-up analysis of operating costs related directly to the cost efficiency of services offered supporting this finding,[373] and

- the underlying activity associated with the step changes proposed for technical regulation or compliance reasons and for project related reasons are reasonable and should be accepted subject to two minor adjustments. These adjustments are in relation to project specific costs with respect to the Queanbeyan trunk receiving station (TRS) and the Phillip primary receiving station (PRS).[374]

With respect to the level of UAG the Wilson Cook Report concludes that a reasonable level of UAG would be 1.7 per cent of gas receipts.[375]

9.5 AER's analysis and considerations

9.5.1 Operating expenditure in the earlier access arrangement period

The AER is not required to assess whether ActewAGL's operating expenditure in the earlier access arrangement period is prudent. An overview of actual operating expenditure is included earlier in this chapter as it provides a context for ActewAGL's proposed forecast operating expenditure.

9.5.2 Forecast operating expenditure

The AER notes that there is a significant increase in real terms (36.7 per cent)[376] in ActewAGL's forecast operating expenditure for the access arrangement period when

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368 Wilson Cook, *Review of expenditure of ACT and NSW gas DNSPs: ActewAGL Distribution's Network*, 29 October 2009, pp. 14–16 (Wilson Cook Report).

369 Wilson Cook Report, p. 14.

370 Wilson Cook Report, 29 October 2009.

371 Wilson Cook Report, 29 October 2009, p. 19.

372 Wilson Cook Report, 29 October 2009, pp. 15–17.

373 Wilson Cook Report, 29 October 2009, pp. 17–19.

374 Wilson Cook Report, 29 October 2009, pp. 17–18.

375 Wilson Cook Report, 29 October 2009, pp. 18–19.

compared to its expected operating expenditure for the earlier access arrangement period. The average annual increase in total expenditure of 4.6 per cent over the access arrangement period compares with 7.5 per cent for the approved total operating expenditure over the earlier access arrangement period.

ActewAGL submits there are several step changes in its forecast operating expenditure related to project specific costs, gas market operation costs and regulation costs.[377] The AER notes that these step changes contribute to increases in ActewAGL's forecast operating and maintenance costs (30.0 per cent increase in real terms when compared to the expected expenditure for the earlier access arrangement period) and other controllable costs (123.7 per cent increase). There are also significant increases in forecast expenditure associated with:

- UAG (67.8 per cent increase)
- the UNFT (37.8 per cent increase)
- corporate overheads (36.7 per cent increase)
- government levies (28.3 per cent increase)
- other costs (28.2 per cent increase)
- marketing costs (16.0 per cent increase)
- contestability costs (12.1 per cent increase)

The AER also notes that about a third of the increase in ActewAGL's forecast total operating expenditure that occurs in the first year of the access arrangement period is attributable to the introduction of debt raising costs and self insurance costs that were not operating expenditure items in the earlier access arrangement period.

These issues are considered below.

9.5.3 Methodology for estimating forecast operating expenditure

ActewAGL forecasts operating expenditure by:

- identifying a base year for efficient costs
- adjusting for step changes by removing and adding costs to forecast expenditure[378]
- accounting for growth in customer numbers
- escalating costs for expected changes in input costs

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376 Calculated using total operating expenditure for the five year period 2005–06 to 2009–10 instead of the six year period covering the earlier access arrangement period.

377 ActewAGL, *Access arrangement information*, June 2009, p. 165

378 Note that this adjustment includes removal of costs that are not reflective of future requirements.

- adjusting for productivity improvements.[379]

9.5.3.1 Selection of base year

ActewAGL proposes to use 2009–10 as the base year for projecting forecast operating expenditure over the access arrangement period. Even though expenditure for this year is forecast expenditure, ActewAGL submits that this expenditure is already known from the budget negotiated in the draft Service Plan for 2009–10.[380] The AER notes that the expenditure budgeted for in the draft Service Plan[381] is forecast expenditure and not actual incurred expenditure. ActewAGL also submits that 2009–10 is an appropriate base year as it is the closest year to the access arrangement period and the first full year in which ActewAGL will incur lease costs subsequent to the sale of its corporate head office in 2008.[382]

The AER considers that the following conditions should be met when selecting and adjusting a base year for projecting efficient operating costs:

- the base year should not include substantial one–off expenditure
- the expenditure should reflect actual rather than forecast or unrealised expenditure
- the base year generally should be as close as possible to the forecast period. A year proximate to the commencement of the access arrangement period, excluding one–off factors, is likely to better reflect the current operating and organisational structure than earlier years.

The AER notes that operating expenditure for the last year of the earlier access arrangement period (i.e. 2009–10) is forecast expenditure, with the most recent full year of actual expenditure being 2007–08. While actual expenditure for the 2008–09 year was not available at the time ActewAGL submitted its access arrangement proposal, the expenditure would have been possible to estimate with a reasonable level of confidence. Notwithstanding this, total operating expenditure over the last year 2009–10 is expected to increase in real terms by 2.6 per cent. However, the increase is more than explained by 2009–10 being the first full year that ActewAGL will incur its leasing expense associated with its head office. Put another way, if 2008–09 was to be applied as the base year, it would need to be adjusted upwards for lease costs.

ActewAGL proposes 2009–10 as the base year for establishing its operating expenditure forecast. The AER has assessed the forecast methodology and finds no reason to reject the proposed base year. While the AER's standard practice is to apply a base year derived from the most recent year of actual expenditure, in this instance it considers that 2009–10 is the appropriate year for projecting ActewAGL's operating expenditure over the access arrangement period for the following reasons:

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379 ActewAGL, *Access arrangement information*, June 2009, p. 162.

380 ActewAGL, *Access arrangement information*, June 2009, attachment Q.2, (confidential).

381 The AER notes that under the DAMS Agreement, JAM submits to ActewAGL an annual service plan, which outlines the operating expenditure planned for the next contract year. JAM also prepares longer term plans providing for network planning and asset management which ActewAGL reviews annually.

382 ActewAGL, *Access arrangement information*, June 2009, pp. 163–165.

- the forecast operating expenditure for 2009–10 is broadly consistent with the expenditure for the previous year 2008–09

- after adjusting for the introduction of lease costs, the total operating expenditure forecast for 2009–10 is actually less than the expenditure estimated for 2008–09

- through its Service Plan negotiated with JAM, ActewAGL has in the past typically incurred expenditure up to its regulatory allowance. This means that the forecast expenditure for 2009–10 can be considered as fairly reliable and to have been derived at on a reasonable basis as required by r. 74(2)(a) of the NGR

- the 2009–10 forecast operating expenditure is considered to be a reliable estimate and is indicative of ActewAGL's operating expenditure forecast over the access arrangement period.

9.5.3.2 Step changes

ActewAGL proposes several step changes to its forecast operating expenditure including various project specific costs,[383] gas market operation costs and regulation costs over the access arrangement period.

Technical regulation and project specific costs

The AER engaged Wilson Cook to examine step changes in ActewAGL's forecast operating expenditure related to technical regulation (i.e. compliance with Australian Standards) and certain project specific costs as submitted by ActewAGL.[384]

Technical regulation

ActewAGL submits that it will incur a step change in its forecast operating expenditure due to increases in compliance costs in meeting its technical regulation obligations under the Australian Standards for gas pipelines (AS2885 and AS4645). As a result of changes in these standards, ActewAGL is required to undertake regular workshops in relation to safety management studies, integrity reviews and formal safety assessments.[385]

The Wilson Cook Report concludes that the need for technical regulation appeared to be well established and that the approach taken by ActewAGL is sound. The Wilson Cook Report raises the question of whether these activities replace existing activities but found no evidence to support this proposition.[386] However, the Wilson Cook Report considers that while the time allowances proposed by ActewAGL appeared reasonable, the unit rate is considered high if it relates mainly to field staff or technical staff on lower salary levels.[387]

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383 The AER notes that these project specific costs are considered step changes as they will recur on a periodic basis. For example every five or 10 years.

384 ActewAGL, *Access arrangement information*, June 2009, attachment N (confidential).

385 ActewAGL, *Access arrangement information*, June 2009, p. 166.

386 Wilson Cook Report, 29 October 2009, p. 17.

387 Wilson Cook Report, 29 October 2009, p. 17.

ActewAGL advises the AER that in calculating the costs of meeting its technical regulation obligations it uses a daily rate of an employee attending workshops, which is based on JAM's experience with safety management studies required by Australian Standards (AS2885).[388] The AER notes that this daily rate is significantly higher than the daily rate observed by the AER for similar safety management workshops.[389]

The AER considers that ActewAGL's forecast operating expenditure related to the technical regulation has not been arrived at on a reasonable basis and does not represent the best estimate possible in the circumstances as required by r. 74(2) of the NGR. In addition to this it does not meet the operating expenditure criteria of a prudent service provider acting efficiently to achieve the lowest sustainable cost of service as set out in r. 91 of the NGR. As outlined in the Wilson Cook Report, there is some uncertainty about whether these workshops replace existing technical regulation activity and the AER cannot confirm if relevant JAM labour costs are not already included in the proposed labour operating expenditure forecasts. While the AER has been unable to verify that the JAM labour costs are excluded from the base year expenditure, it has decided to allow additional labour costs related to technical regulation workshops in this instance.

The AER has estimated ActewAGL's technical regulation compliance costs using a lower daily rate and has included these costs in ActewAGL's approved forecast operating expenditure as shown in amendment 9.1. The AER considers that these revised costs have been arrived at on a reasonable basis and represent the best estimate possible in the circumstances as required by r. 74(2) of the NGR. The AER also considers that the revised costs meet the operating expenditure criteria as set out in r. 91 of the NGR. Therefore, ActewAGL is required to amend its forecast operating expenditure as set out in amendment 9.1.

Project specific costs

Expenditure related to the main integrity inspections makes up 96.9 per cent of ActewAGL's project specific operating expenditure which is forecast for the access arrangement period. While the Wilson Cook Report concludes that this expenditure is reasonable, it was unable to provide detailed comments on the budgeted costs, as few details were provided in ActewAGL's proposal submission. However, the Wilson Cook Report outlines that in relation to these costs:[390]

- a material part of the costs are contracted to a specialised party (the pigging contractor)
- the Jemena fee is also a material component, but is not supported by cost information on subcomponents
- the costs are preliminary estimates subject to a wide tolerance of accuracy

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388 ActewAGL, *Email response to the AER's questions*, 26 August 2009, item 1 – technical regulation pp. 2–3.

389 Source: confidential.

390 Wilson Cook Report, 29 October 2009, p. 18.

- the cost components for 'validation digs including repairs' are not contingencies but are required to calibrate the 'pigging' information.

ActewAGL advises the AER that it conducts maximum allowable operating pressure (MAOP) reviews every five years in accordance with the Australian Standards for pipeline integrity management (AS2885.3). The Australian Standards set out a range of inspection methods and frequency required for integrity management. For MAOP reviews of pipelines older than ten years, inspection methods include integrity digs, intelligent pigging and hydrostatic testing.[391] ActewAGL advises that while intelligent pigging is not mandated by the Australian Standards[392] it is preferred to other inspection methods and cite it as the least cost method in terms of net present value.[393] ActewAGL advises that JAM did not recommend pigging in the initial MAOP review but has recommended it for the second MAOP review. Depending on the condition of the pipeline the use of intelligent pigging may be extended to every second review.[394] That is to say, if the pipeline is found to be in satisfactory condition during the first review, then the use of intelligent pigging may be extended to every ten years instead of every five years.

For the review of the next access arrangement period (from 1 July 2015), ActewAGL will need to justify the need for inclusion of operating expenditure for intelligent pigging using the detailed information obtained during the pigging process to be undertaken during the access arrangement period. The AER notes that subject to the condition of the pipeline as observed the intelligent pigging inspection program in the access arrangement period, less costly methods of inspections may be justified in subsequent MAOP reviews.

The AER considers that forecast expenditure related to the main integrity inspections has been made on a reasonable basis in the access arrangement period, represents the best forecast or estimate possible under r. 74(2) of the NGR and that this expenditure meets the operating expenditure criteria under r. 91 of the NGR.

For the remainder of the project specific costs the Wilson Cook Report concludes that these costs are reasonable and should be accepted subject to two adjustments in respect of the Queanbeyan TRS and Phillip PRS. Wilson Cook identifies that once the new Queanbeyan TRS is built then the Jerrabomberra packaged off take station (POTS) will no longer be required. Wilson Cook concludes that ActewAGL has erroneously included $9840 per annum ($2009–10) in its forecast operating expenditure from 2011–12 onwards, and that this cost should be removed. There is also a timing adjustment relating to when the operating expenditure associated with the Phillip PRS will commence (i.e. Phillip PRS operating expenditure will commence in 2014–15[395] and not in 2011–12 as ActewAGL submits in its access

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391 ActewAGL, *Email response to the AER's questions*, 27 August 2009, item 3 – project specific costs, pp. 1–2.

392 ActewAGL, *Email response to the AER's questions*, 27 August 2009, item 3 – project specific costs, p. 4.

393 Wilson Cook Report, 29 October 2009, p. 18.

394 ActewAGL, *Email response to the AER's questions*, 27 August 2009, item 3 – project specific costs, p. 1.

395 ActewAGL, *Email response to the AER's questions*, 26 August 2009, item 3 – project specific costs, question 3.2, p. 8.

arrangement proposal).[396] Wilson Cook notes that the need for both of these adjustments has been confirmed by ActewAGL.[397]

The AER considers that ActewAGL's forecast operating expenditure related to project specific costs, adjusted to reflect the two adjustments in respect of the Queanbeyan TRS (expenditure is to be reduced by $9840 per annum ($2009–10) from 2011–12) and the Phillip PRS (expenditure is to commence in 2014–15), has been arrived at on a reasonable basis and represents the best forecast or estimate possible in the circumstances as required by r. 74(2) of the NGR. The AER also considers that the adjusted costs meet the operating expenditure criteria as set out in r. 91 of the NGR. Therefore, the AER requires ActewAGL to amend its forecast operating expenditure for the Queanbeyan TRS and Phillip PRS as outlined in amendment 9.1.

AEMO fees

ActewAGL proposes a $50 000 ($2009–10)[398] step change in its forecast operating expenditure commencing in 2011–12 which is due to a potential increase in AEMO fees. ActewAGL submits that the fees incurred from the AEMO will likely be higher because of the expanded size and scope of the organisation and the complexity of its operation as compared to the former Gas Market Company (GMC).[399] ActewAGL also submits that differences between the forecast and actual costs associated with the AEMO fee are adjusted through its proposed annual tariff variation mechanism.[400]

The AER considers that ActewAGL has provided insufficient information to support its proposal for higher AEMO fees. The AER considers that the increase in operating expenditure associated with the expected increase in AEMO fees is not supported by information to establish that the forecast is arrived at on a reasonable basis, as required by r. 74(1) of the NGR. Furthermore the AER does not consider that it represents the best forecast possible in the circumstances, as required by r. 74(2) of the NGR. The AER does not consider that this expenditure represents the lowest sustainable cost of delivering pipeline services, as set out in r. 91 of the NGR.

The AER notes that ActewAGL is seeking the ability to pass through any future increase in the AEMO fees through the proposed annual tariff variation. As discussed in chapter 13, the AER approves the tariff variation mechanism with respect to any future increase in incurred AEMO fees as a low materiality threshold pass through event. If such an event occurs, ActewAGL will need to apply to the AER for approval of the incurred cost it proposes to pass through in accordance with r. 97(4) of the NGR.

For the above reasons the AER does not approve the forecast step change expenditure related to the AEMO fee as proposed by ActewAGL and requires ActewAGL to amend its forecast operating expenditure as outlined in amendment 9.1.

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396 ActewAGL, *Access arrangement information*, June 2009, p. 168 and attachment N (confidential)

397 Wilson Cook Report, 29 October 2009, pp. 17–18.

398 ActewAGL, *Access arrangement information*, June 2009, p. 185.

399 ActewAGL, *Access arrangement information*, June 2009, p. 171.

400 ActewAGL, *Access arrangement information*, June 2009, p. 185.

Gas market development

ActewAGL proposes that certain costs associated with changes in the behaviour of wholesalers and the introduction of the Short Term Trading Market (STTM)[401] should be considered as step changes in its forecast operating expenditure. These step changes are discussed below.

Changed behaviour of wholesalers

ActewAGL submits that over the course of the earlier access arrangement period there has been on average two market shortfall incidents per annum. ActewAGL submits that these incidents are a manifestation of the change in behaviour of gas wholesalers with the introduction of a national gas market. With market-based incentives ActewAGL submits that wholesalers now only provide slim volume margins[402] on pipeline supply in order to optimise their gas portfolio. On occasions this can cause low pressure at ActewAGL's Watson receipt point resulting in a market shortfall event.[403]

ActewAGL forecasts that the frequency of these market shortfall events will continue over the access arrangement period and have forecast the operational costs of managing such events accordingly. ActewAGL identifies these costs as related to field personnel, personnel for emergency incident meetings, network criticality analysis and load shedding.[404]

The AER understands that activities associated with market shortfall events are of a short-term reactive nature necessitated by the emergency situation caused by supply interruption. Accordingly, the AER considers that the resources employed by ActewAGL to manage these market shortfall events are likely to have been reallocated from normal activities rather than deploying new resources. This means that in reallocating resources in these shortfall circumstances, normal activities are put on hold until the shortfall event has been rectified, rather than additional resources being employed. To the extent these shortfall events have occurred in the earlier access arrangement period, the cost of managing these events is incorporated in the 2009–10 base year operating expenditure.

In conclusion the AER considers that no additional operating expenditure is required to manage these market shortfall events and that ActewAGL's proposed step change for changed wholesale behaviour does not meet the operating expenditure criteria as required by r. 91 of the NGR. The AER considers that this expenditure has not been arrived at on a reasonable basis and does not represent the best estimate or forecast possible in the circumstances as required by r. 74(2) of the NGR. As previously discussed, the AER considers that ActewAGL is likely to reallocate existing resources rather than incur additional new expenditure to manage these expected market

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401 Ministerial Council on Energy (MCE), *National Gas (Short-term trading market) Amendment Rules 2009, Exposure draft*, 21 July 2009, pp. 16 and 24–25, viewed 18 September 2009, <http://www.ret.gov.au/Documents/mce/_documents/2009%20Bulletins/National%20Gas%20(Short%20Term%20Trading%20Market)%20Amendment%20Rules.pdf>

402 The AER understands that slim volume margins in the pipeline can cause a lower level of line pack resulting in less reserves of gas.

403 ActewAGL, *Access arrangement information*, June 2009, p. 166.

404 ActewAGL, *Access arrangement information*, June 2009, p. 166.

shortfall events. The AER considers that ActewAGL's proposed expenditure relating to changed market behaviour of wholesalers is not expenditure that would incurred by a prudent operator acting efficiently. Therefore the AER does not approve the forecast step change expenditure relating to changed market behaviour of wholesalers as proposed by ActewAGL. As a result ActewAGL is required to amend its approved forecast operating expenditure as set out in amendment 9.1.

Introduction of the STTM

ActewAGL proposes step changes in its forecast operating expenditure which are costs associated with the introduction of the STTM. These costs relate to the issues of supply reliability and balancing gas. ActewAGL submits that with the introduction of the STTM wholesalers will be focussed on deliveries through the Sydney hub constraining their ability to provide gas to ActewAGL's network. In anticipation of a possible supply constraint, ActewAGL is forecasting an additional two market shortfall events per annum. To meet this challenge ActewAGL submits that it will increase its level of intervention in the wholesale market to ensure the supply to the ACT, Palerang and Queanbeyan gas distribution network, or where this is not possible to manage the supply shortfall events.[405]

The AER notes ActewAGL's submission, that with the introduction of the STTM it may become necessary for ActewAGL to intervene in the wholesale market[406] through the purchasing and selling of gas to ensure supply reliability. However, under s. 139 of the NGL, a service provider is prohibited from carrying on a related business. This includes the business of purchasing or selling natural gas.[407] An exception is provided where it is necessary for the safe and reliable operation of the pipeline or to enable the service provider to provide balancing services on the pipeline. Where this is the case, the service provider may purchase or sell natural gas and not be considered to be carrying on a related business under s. 137 of the NGL.

The AER considers that, as with market shortfall events arising from the changed behaviour of wholesalers, ActewAGL is likely to reallocate resources rather than deploy new resources to manage these possible additional market shortfall events. The AER is not satisfied that ActewAGL has provided sufficient analysis to support the assertion that it will face supply constraints with the introduction of the STTM. The AER would expect, prima facie, that rational gas wholesalers would be just as willing to supply the ACT and Queanbeyan market. The AER considers that there is no additional operating expenditure required to manage these possible market shortfall events and that ActewAGL's proposed step change for STTM supply reliability would not be incurred by a prudent operator acting efficiently, as required by r. 91 of the NGR. Furthermore, the AER considers that this expenditure has not been arrived at on a reasonable basis and does not represent the best estimate or forecast possible in the circumstances, as required by r. 74(2) of the NGR. This is because the AER considers that it is likely there will be no additional expenditure incurred by ActewAGL in relation to STTM supply reliability. Therefore, the AER does not approve the forecast step change expenditure related to STTM supply reliability as

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405 ActewAGL, *Access arrangement information*, June 2009, pp. 166–167.

406 ActewAGL, *Access arrangement information*, June 2009, p. 167.

407 NGL, s. 137.

proposed by ActewAGL and requires ActewAGL to amend its forecast operating expenditure as set out in amendment 9.1.

ActewAGL also submits that a further impact of the introduction of the STTM is on the costs of management services for balancing gas. ActewAGL submits that with the introduction of the STTM it will incur a larger portion of the operating costs of the IT system it uses to manage retailers' supply, which it currently shares with Jemena.[408]

Unlike ActewAGL's proposed expenditure for STTM supply reliability, the AER considers that the proposed expenditure for managing STTM gas balancing is consistent with the requirements of r. 91 of the NGR notwithstanding that the AER has not approved the HFL. This is because the AER considers that this expenditure is likely to stem from new activity that is based on operating, developing and administering the gas balancing management IT system. The AER considers that ActewAGL's proposed costs of management services for balancing gas as a result of the introduction of the STTM have been arrived at on a reasonable basis and represent the best estimate or forecast possible in the circumstances, as required by r. 74(2) of the NGR. In addition to this, the AER considers that these costs meet the operating expenditure criteria, as set out in r. 91(1) of the NGR.

9.5.3.3 Cost escalators

ActewAGL proposes to apply a number of real cost escalators. ActewAGL's approach is to classify the base year and the step change costs into different input cost categories and to then escalate these categories individually.[409] This approach is applied to costs incurred by ActewAGL through its contract with JAM and the costs it incurs directly.

In relation to the JAM costs, there are three input cost categories: (enterprise bargaining agreement (EBA) labour, non-EBA labour and other costs).[410] The relevant input cost classifications across each service performed by JAM are outlined in Table 9.2.

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408 ActewAGL, *Access arrangement information*, June 2009, p. 167.

409 ActewAGL, *Access arrangement information*, June 2009, p. 175.

410 EBA labour refers to labour provided by employees covered by JAM's EBA, non-EBA labour refers to labour provided by contract employees and other costs refers to all other costs.

Table 9.2: JAM related cost breakdown (%)

Service performed by JAM	EBA labour	Non-EBA labour	Other
Asset services	80	10	10
Asset management	0	90	10
Asset utilisation	0	0	100
Contestability costs	0	90	10
Marketing	0	90	10

Source: ActewAGL, *Access arrangement information*, June 2009, p. 177.

For its directly incurred costs, ActewAGL proposes three input cost classifications: wages (EGW and general), IT application costs and other costs.[411]

For the cost of services provided by JAM, ActewAGL proposes to apply the conclusions from a report prepared by the Competition Economists Group (CEG) report to estimate the escalation rates for each input cost category.[412] ActewAGL proposes real escalation rates for the input cost categories relevant to the JAM services as listed in Table 9.3.

Table 9.3: Real cost escalators for JAM contract costs (%)

	2010–11	2011–12	2012–13	2013–14	2014–15
EBA labour	1.3	2.1	1.9	1.6	1.8
Non EBA labour	1.4	2.1	4.0	4.4	4.1
Other	0	0	0	0	0

Source: ActewAGL, *Access arrangement information*, June 2009, p. 177.

The proposed cost estimates directly incurred by ActewAGL are outlined in Table 9.4.

411 ActewAGL *Access arrangement information*, June 2009, p. 178.

412 ActewAGL, *Access arrangement information*, June 2009, p. 177 and CEG, *Escalation Factors affecting expenditure forecasts: a report for Jemena Asset Management,* June 2009.

Table 9.4: Real cost escalators for ActewAGL (%)

	2010–11	2011–12	2012–13	2013–14	2014–15
General labour	2.4	1.0	0.9	0.2	0.6
EGW	3.6	2.9	2.5	1.5	1.5
IT application costs	12.2	13.3	7.3	7.3	7.3
Other	0	0	0	0	0

Source: ActewAGL, *Access arrangement information*, June 2009, p. 178.

JAM labour costs

The CEG report separately forecasts changes in EBA labour and non-EBA labour costs.[413] The EBA labour cost forecasts rely on actual changes in staff costs where available and where actual data is not available they are based on an average of forecasts from BIS Shrapnel, Macromonitor and Econtech.[414] The only difference for non-EBA labour costs, is that Econtech's forecasts are not used to calculate labour escalation rates.[415] The Macromonitor report was prepared in March 2009 while the BIS Shrapnel report was prepared in May 2009. The CEG report also applies a specific method to transition between historical labour cost data and forecasts.[416]

The AER considers that since the publication of these reports, there have been significant changes in the macroeconomic outlook as well as fluctuations in some relevant economic data which may result in these older reports no longer providing the best forecast possible in the circumstances, as required by r. 74(2)(b) of the NGR. In particular, the AER considers that while an increase in employment in the electricity, gas and water sector was observed until March 2009 it is now the case that employment in the electricity, gas and water sector is decreasing. In addition to this, wage growth data released for the June quarter of 2009 was weaker than expected, particularly for the electricity, gas and water sector.[417]

The AER commissioned a report from Access Economics to forecast labour costs for the electricity, gas and water sector of the Australian economy on a state by state basis. The methodology used by Access Economics forecasts wages using a formal macroeconomic model based on business cycle factors, productivity factors and relative wage factors.[418] This approach does not focus on institutional changes such as collective and individual agreements.[419] The AER considers that a more up to date forecast provides the best forecast possible in the circumstances, as required by r. 74

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413 Non-EBA labour represents contract labour.

414 CEG, *Escalation Factors affecting expenditure forecasts: a report for Jemena Asset Management,* June 2009, pp. 30–38

415 CEG, *Escalation Factors affecting expenditure forecasts: a report for Jemena Asset Management,* June 2009, pp. 30–38.

416 CEG, *Escalation Factors affecting expenditure forecasts: a report for Jemena Asset Management*, June 2009, pp. 30–38.

417 Access Economics, *Correspondence*, 17 September 2009.

418 Access Economics, *Forecast growth in labour costs*, 16 September 2009. pp. 104–105.

419 Access Economics, *Forecast growth in labour costs*, 16 September 2009, p. 113.

of the NGR. This is because it is able to take into consideration recent developments in the economy.

The AER considers that, given the significant changes in the macroeconomic outlook since May, particularly changes to employment in the electricity, gas and water sector, the most up to date forecast provides the best forecast possible in the circumstances, as required by r. 74(2)(b) of the NGR. Even though Access Economics uses industry sector data to forecast labour cost escalators, the AER considers the fact that these forecasts are able to take into account recent developments in the labour market more than offsets any limitation in not being able to forecast EBA and non-EBA cost escalators. Accordingly, the AER does not accept ActewAGL's proposed real cost escalators for JAM labour costs and requires ActewAGL to use the more up to date forecast from Access Economics, as shown in Table 9.5. The AER considers this to be the best forecast possible in the circumstances, as required by r. 74 of the NGR. The AER accepts the CEG report's method of transitioning between historic labour cost data and forecasts. The AER considers that this approach has a reasonable basis and provides the best forecast possible in the circumstances, as required by r. 74 of the NGR, because it correctly accounts for the transition from annual to quarterly data.

ActewAGL labour costs

For labour costs directly incurred by ActewAGL, ActewAGL proposes to use the most recent Econtech ANSIO report available prior to the final decision to escalate wages from 2011–12 and that the employee agreement level of 5 per cent (nominal) be used for 2010–11.[420] ActewAGL proposes this on the basis that the report will provide the most up to date forecasts for both general labour and EGW labour costs on a state by state basis.[421] In the meantime, ActewAGL uses indicative forecasts taken from a report developed for the AER in March 2009.[422]

For labour costs, the AER considers that it is appropriate to use a methodology which provides a forecast for both general labour and EGW labour costs on a state by state basis in order to arrive at an estimate that is consistent with the requirements of r. 74 of the NGR. The AER has commissioned a report from Access Economics which provides a forecast for both general labour and EGW labour on a state by state basis. The AER considers that these forecasts account for recent changes in the macroeconomic outlook for labour costs and have been arrived at on a reasonable basis and represent the best forecasts possible in the circumstances.[423] However, the AER does not consider it appropriate to use ActewAGL's EBA rates for the access arrangement period as this would move ActewAGL from an incentive based framework to a cost of service recovery framework.

If ActewAGL's EBA rates relevant for the access arrangement period were used, this would undermine the incentive for ActewAGL to seek to control its labour costs. This in turn, would be likely to cause the actual EBA rates to depart from those which

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420 ActewAGL, *Access arrangement information*, June 2009, p. 178.

421 ActewAGL, *Access arrangement information*, June 2009, p. 178.

422 Econtech, *Updated labour cost growth forecasts,* 25 March 2009.

423 NGR, r. 74(2).

achieve the lowest sustainable costs of delivering pipeline services, as set out in r. 91 of the NGR. By relying on industry wide forecasts, and not ActewAGL's EBA rates, ActewAGL maintains an incentive to negotiate with its employees to obtain productivity savings under its EBA. The AER considers that this forecast reflects the cost that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services, as set out in r. 91 of the NGR.

The AER requires ActewAGL to amend its forecasts for general labour costs based on the more recent Access Economics report as set out in amendment 9.1.

ActewAGL related IT costs

ActewAGL proposes a 30 per cent real cost escalator for IT application costs. This estimate is not supported by past or expected events.[424] The AER does not consider that ActewAGL has demonstrated that these costs would be incurred by a prudent service provider acting efficiently in accordance with accepted good industry practice to achieve the lowest sustainable cost of delivering pipeline services as set out in r. 91 of the NGR. ActewAGL has not presented historical data on IT costs nor provided any basis on which the forecast escalation rates are estimated. The AER does not consider that this meets the requirements of r. 74(1) of the NGR, which requires that a forecast or estimate must be supported by a statement of the basis of the forecast or estimate. The AER considers that the proposed escalator for IT costs is inconsistent with the requirements of r. 74(2)(a) of the NGR because it has not been arrived at on a reasonable basis. The AER considers that the best forecast in the circumstances is to escalate in line with forecast inflation.

Conclusion on ActewAGL's proposed escalators

For the reasons discussed and as a result of the AER's analysis of ActewAGL's access arrangement proposal, the AER is not satisfied that the proposed cost escalators comply with the requirements of r. 91 of the NGR. In particular, the forecasts derived by applying ActewAGL's proposed escalators to the base year costs would not be incurred by a prudent service provider acting efficiently and in accordance with accepted good industry practice. The AER considers that the proposed forecasts are not arrived at on a reasonable basis and do not represent the best forecast possible in the circumstances, as required by r. 74(2) of the NGR, because of changes to the economic outlook and changes to specific economic data relevant to the forecasts. As a result the AER requires ActewAGL to amend its forecast operating expenditure by applying the escalators set out in amendment 9.1 and shown below in Table 9.5. The AER considers that, consistent with the approach taken in this decision and with r. 91 and r. 74(2) of the NGR, these escalators should be updated in the final decision to allow for consideration of changes in economic circumstances and updated data.

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424 ActewAGL, *Access arrangement information*, June 2009, p. 178.

Table 9.5: Real cost escalators for costs relating to ActewAGL (%)

	2010–11	2011–12	2012–13	2013–14	2014–15
General labour – ACT	0.2	0.4	1.0	1.5	1.6
EGW labour – NSW	0.1	0.5	0.9	1.5	1.7
EGW labour – ACT	0.9	0.5	1.1	1.5	1.4
IT application costs	0	0	0	0	0
Other	0	0	0	0	0

Note: EGW rates are given for both NSW and ACT as JAM staff are predominantly located in NSW while ActewAGL's staff are located in ACT.

9.5.3.4 Benchmarking study

To support its proposed forecast operating expenditure, ActewAGL provides a benchmarking study completed by JAM to illustrate that ActewAGL's cost of services is efficient. ActewAGL submits that this study shows that after normalisation of the data set, ActewAGL's costs are within the normal range of, or lower than those of its peers in the Australian gas distribution industry. This is based on the following performance indicators:

- operating expenditure as a proportion of length of mains
- operating expenditure as a proportion of customer numbers
- operating expenditure as a proportion of regulatory asset base.[425]

The normalisation of the data set accounts for network design differences such as whether the mains are run down both sides of streets ('dual mains') and customer density.[426]

Wilson Cook reviewed the JAM benchmarking study as part of its assessment of ActewAGL's proposed operating expenditure. The Wilson Cook Report concludes that overall it accepts the benchmarking analysis as presented by ActewAGL and that prima facie it suggests that ActewAGL operates with a cost structure that is within the levels of confidence in the benchmarking. However, the Wilson Cook Report notes that there is a lack of a bottom-up analysis of operating costs related directly to the cost efficiency of services offered supporting this finding.[427]

There is, however, an issue of whether the normalisation process took into account differences in the cost of leasing compared with owning assets such as corporate head offices. This issue was raised with ActewAGL. In response, ActewAGL confirmed that the normalisation process had not considered whether the network businesses

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425 ActewAGL, *Access arrangement information*, June 2009, p. 164.

426 Wilson Cook Report, 29 October 2009, p. 16.

427 Wilson Cook Report, 29 October 2009, p. 17.

leased or owned their property as this level of detail was not normally publicly available.[428]

The AER has concerns that ActewAGL's lease expenses were not taken into account in the benchmarking study, given that the study used data from 2007–08 which was prior to the sale of ActewAGL's corporate head office.[429] This omission could produce a favourable advantage when comparing ActewAGL's operating expenditure performance with other gas distribution businesses. Further, ActewAGL's forecast operating expenditure includes not only leasing costs but several other step changes (discussed above), which reduce the applicability of the benchmarking study to the access arrangement period. The Wilson Cook Report also notes that the benchmarking study did not take into account differing network ages and considers that ActewAGL has a comparative advantage given that its network is relatively young.[430] The AER notes that there are qualifications with regard to network age that are noted in the Wilson Cook Report.[431]

The AER is also concerned that for all of the firms benchmarked, the asset operators are related parties of the asset owner. The resulting fees may not be as efficient as those established through processes such as competitive tenders or as those agreed between arm's length parties.

Despite these reservations, the AER considers that the benchmarking study supports ActewAGL's contention that its cost structure compares favourably with its peers in the Australian gas distribution industry. The AER notes, however, that the benchmarking study provides insufficient information for it to verify that ActewAGL's forecast operating expenditure is consistent with r. 91 of the NGR.

9.5.3.5 Statement of costs

As outlined above, ActewAGL outsources its operating and maintenance expenditure to JAM in accordance with the DAMS Agreement.[432] As a result of this, many of the costs that would normally be incurred by ActewAGL are incurred by JAM under the DAMS Agreement. In the proposed access arrangement period, these costs account for more than half of ActewAGL's total operating expenditure.

ActewAGL has provided the AER with limited information concerning the underlying activities and associated costs incurred under the DAMS Agreement with JAM. The AER considers that this lack of detailed information limits its ability to make a thorough assessment of operating expenditure against the criteria in r. 91 of the NGR.

ActewAGL has also provided limited information detailing how it regards the effectiveness of JAM's management of the network. To help identify an acceptable

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428 Wilson Cook Report, 29 October 2009, p. 16.

429 The AER notes that ActewAGL's forecast operating expenditure includes the full cost of lease expenses while the actual operating expenditure used in the benchmarking study did not. In other words, ActewAGL's operating expenditure used in the benchmarking study is understated relative to its operating expenditure forecast for the access arrangement period under review.

430 Wilson Cook Report, 29 October 2009, p. 16.

431 Wilson Cook Report, 29 October 2009, pp. 16–17.

432 ActewAGL, *Access arrangement information*, June 2009, p. 23.

standard of service, ActewAGL outlines a set of KPIs (key performance indicators) it developed to assess JAM's performance. The DAMS Agreement also includes 'levels for corrective action, to which financial consequences apply, and levels of service that would constitute a material breach'.[433] However, it remains unclear what the current threshold for commencement of corrective action or a breach of contract is. It is also unclear what, if any, financial consequences have ever been applied.

Although JAM's actual expenditure is often on par with regulatory allowance, the AER considers that this does not guarantee that JAM is operating efficiently and to achieve the lowest sustainable cost of delivering pipeline services, as set out in r. 91 of the NGR. For example, JAM could in theory lower the amount of activity undertaken and raise the price such that ActewAGL's actual expenditure remains consistent with the approved operating expenditure.

It is also unclear whether an alternative service provider, if given the opportunity, would be able to offer these services at a lesser (more efficient) price. The DAMS Agreement has been in place since October 2000, and the specific services provided under it updated each year in the Annual Service Plan. However, as ActewAGL submits, the outsourcing arrangements have not been subject to competitive tender,[434] and do not have a fixed term.[435] While ActewAGL submits that the DAMS Agreement allows for market testing of the costs incurred under the arrangement, ActewAGL has not provided evidence that this ever happened over the term of the agreement.[436]

The forecast operating expenditure for the JAM contract is reported in a highly aggregated manner, using just five categories. Of these five categories, two categories, the 'asset services fee' and 'asset management services fee', comprise more than 80 per cent of the total expenditure.[437] The only information provided about the basis for these fees is a total amount for each year of the access arrangement. The categories accounting for the other 20 per cent of total expenditure include a non-system asset charge, a marketing component, and contestability costs. Regarding ActewAGL's proposed operating expenditure, Wilson Cook states that 'given that the management costs of the various entities involved are likely to be highly integrated, we consider it might be very difficult to break them down in a way that would support an assessment of efficiency of service delivery without a detailed bottom-up analysis of the costs being available'.[438]

Rather than providing a detailed breakdown of costs with its access arrangement proposal, ActewAGL has used the findings of a benchmarking assessment to support its claim that its proposed costs are efficient. The benchmarking study was undertaken by JAM at the request of ActewAGL and as noted above, several limitations have been identified by both Wilson Cook and the AER. Although Wilson Cook was

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433 ActewAGL, *Access arrangement information*, June 2009, p. 40.

434 ActewAGL, *Access arrangement information*, June 2009, p. 27.

435 ActewAGL, *Access arrangement information*, June 2009, attachment S.2, p. 1 (confidential).

436 ActewAGL, *Access arrangement information*, June 2009, p. 27.

437 ActewAGL, *Access arrangement information*, June 2009, p. 181.

438 Wilson Cook Report, 29 October 2009, p. 15.

satisfied overall with the benchmarking studies methodology and findings, it was concerned whether 'the normalisation adjustments made in the benchmarking analysis were reasonable and appropriate'.[439] As noted above, the AER considers this benchmarking study also has other limitations, including the fact that the sample is comprised of arrangements between largely related parties, which need to be assessed against the criteria in r. 91 of the NGR.

For future assessments against the operating criteria under r. 91 of the NGR, the AER will require a better understanding of the costs that are to be incurred by ActewAGL. To make this possible, the AER has developed an information template in the form of a 'statement of costs' (appendix D) for ActewAGL to complete for each year of the access arrangement period. ActewAGL will be required to submit the completed 'statement of costs' template with its next access arrangement revision proposal. The 'statement of costs' sets out more detailed cost categories, consistent with cost categories ActewAGL uses to support its operating expenditure proposal. The AER considers that information presented in these (or similar) categories is necessary for the AER and its consultants to assess whether the proposed operating expenditure would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services, as set out in r. 91 of the NGR. The 'statement of costs' template includes columns to report on expenditure over/under amounts (in relation to JAM's forecasts as presented in the Annual Services Plan), in addition to whether the underlying level of activity and services was consistent with the targeted level. In this way, the 'statement of costs' may be used as bottom up means of assessing the robustness of the top down benchmarking analysis.

In addition, the 'statement of costs' is important for the AER to effectively assess the application of ActewAGL's incentive mechanism in the access arrangement period. The 'statement of costs' will also enable the AER to determine the relevant increments or decrements resulting from the operation of the incentive mechanism as required by r. 76 of the NGR. In particular, any reclassification from operating expenditure to capital expenditure must be verifiable. This is unlikely to be possible with the highly aggregated level of information submitted by ActewAGL. The AER also considers that it is necessary for the service provider to identify and maintain information about which costs are categorised as controllable and non-controllable costs for the effective operation of the incentive mechanism as discussed in chapter 7.

Furthermore, the AER requires the information to fulfil its obligations under r. 93(2) of the NGR. Although ActewAGL currently has no non-reference services, if it introduces any during the access arrangement period it will be necessary for the AER to verify that the costs associated with non-reference services are separately identified and maintained from the costs related to reference services. For this reason the 'statement of costs' includes a column for the percentage of costs allocated to reference services.

As outlined above, the statement of costs has been developed on the basis of the material submitted by ActewAGL with its proposed access arrangement revisions. While being mindful of the compliance costs the 'statement of costs' would impose

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439 Wilson Cook Report, 29 October 2009, p. 15.

on ActewAGL, the AER considers that the enhanced level of detail is required to make an informed assessment under the NGR in future.

The AER considers that this information is required to assess whether forecast operating expenditure conforms with the criteria under r. 91 of the NGR. Specifically, if operating expenditure is such as would be incurred by a prudent service provider acting efficiently, in accordance with good industry practice, to achieve the lowest sustainable cost of delivering pipeline services. The 'statement of costs' has also been designed to assist in the assessment of the incentive mechanism as outlined in chapter 7, as well as in assessing allocations between reference and other services to assist in decisions under rule 93(2).

The 'statement of costs is to be maintained over the access arrangement period and be updated on an annual basis. Appendix D of the draft decision outlines the nature and level of detail of information required to be maintained.

The AER also requires further information relating to JAM's management of the network and its ability to meet the KPIs as set out in JAM's Annual Services Plan.[440] Such information will allow the AER to make a more informed decision as to whether underlying activities carried out by JAM are in fact efficient, cost effective, and consistent with the requirements under r. 91 of the NGR. Therefore, the AER will require the completed tables of 'Monthly reportable Key Targets' and 'Annual reportable Key Targets'[441] showing actual and target outcomes for each year of the access arrangement period.

This is outlined in amendment 9.3.

9.5.4 Forecast controllable operating expenditure

Table 9.6 compares ActewAGL's controllable costs over the last five years of the earlier access arrangement period with its forecast controllable costs for the access arrangement period.

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440 ActewAGL, *Access arrangement information,* June 2009, pp. 40–41.

441 ActewAGL, *Access arrangement information,* June 2009, attachment Q.2, pp. 12–13 (confidential).

Table 9.6: ActewAGL's forecast operating expenditure ($m, real, 2009–10)

Controllable costs	Earlier access arrangement period[a]	Forecast access arrangement period	Percentage change
Operating and maintenance	41.8	54.4	30.0
Corporate overheads	12.7	17.4	36.7
Non-system asset charge	2.7	2.6	–3.3
Marketing	5.9	6.8	16.0
Other controllable costs	1.1	2.6	123.7
Total controllable costs	64.2	83.7	30.3

Source: ActewAGL, *Access arrangement information*, June 2009, pp. 158, 180.
a: This column is calculated as the sum of the last five years of the earlier access arrangement period, that is 2005–06 to 2009–10 inclusive.

9.5.4.1 Operating and maintenance costs

Operating and maintenance costs are components of the forecast operating expenditure. They are costs incurred by ActewAGL to meet JAM's provision of managerial and field services under the DAMS Agreement. They also include expenditure related to the maintenance of the geographic information system for the gas network.[442]

ActewAGL forecasts a 30.0 per cent increase in real terms in operating and maintenance costs over the access arrangement period when compared with the earlier access arrangement period. Most of ActewAGL's operating and maintenance expenditure is incurred via JAM under the DAMS Agreement with only a small amount being directly incurred by ActewAGL.[443]

Most of the increase in ActewAGL's forecast operating and maintenance expenditure is due to costs associated with the project specific step changes, in particular the main integrity inspections and escalation. An increase of $1.9 million ($2009–10) in forecast operating and maintenance expenditure in 2011–12 is due to the main integrity inspections step change.[444] The AER notes that ActewAGL's directly incurred forecast operating and maintenance expenditure does not increase in real terms over the access arrangement period. The increase in forecast operating and maintenance expenditure relates to the costs incurred via JAM aunder the DAMS agreement.[445]

As previously discussed, ActewAGL has provided the AER with limited information concerning the underlying activities and associated costs incurred from JAM. The

442 ActewAGL, *Access arrangement information*, June 2009, p. 180.

443 ActewAGL, *Email response to the AER's questions*, 7 August 2009, question 16, p. 8.

444 ActewAGL, *Access arrangement information*, June 2009, p. 181.

445 ActewAGL, *Email response to the AER's questions*, 7 August 2009, question 16, p. 8.

AER considers that this lack of detailed information limits its ability to make a thorough assessment of operating expenditure against r. 91 of the NGR.

As previously discussed, the AER considers that ActewAGL's forecast operating and maintenance expenditure should be adjusted to account for the AER's conclusions on ActewAGL's proposed step changes and real cost escalators. The AER considers that these adjustments are required so that ActewAGL's forecast operating and maintenance expenditure is arrived at on a reasonable basis and represents the best forecast or estimate possible in the circumstances as required by r. 74(2) of the NGR. The AER also considers that these adjustments are necessary so that the expenditure meets the operating expenditure criteria as set out in r. 91 of the NGR. The AER requires ActewAGL to make these adjustments to forecast operating and maintenance expenditure as outlined in amendment 9.1.

9.5.4.2 Corporate overheads

ActewAGL forecasts a 36.7 per cent increase in real terms in corporate overheads over the access arrangement period when compared to the earlier access arrangement period. This corporate overhead expenditure includes costs associated with corporate services, retail and networks (logistics). ActewAGL submits that it undertakes an annual cost allocation for all joint costs and that it reviews the cost allocation methodology and cost drivers specific to each activity.[446]

The increase in ActewAGL's forecast corporate overheads is largely due to the leasing of ActewAGL's corporate headquarters and the escalation of corporate overhead costs. ActewAGL previously owned its corporate headquarters and therefore did not incur this lease expense. ActewAGL submits that there is an increase of $1.2 million ($2009–10) in corporate overheads from 2010 which reflect higher operating costs of its new corporate headquarters.[447]

As previously discussed, the AER has concerns that the leasing cost of ActewAGL's new corporate headquarters is not taken into account in ActewAGL's cost comparison benchmarking study. As these costs are largely responsible for the significant increase in ActewAGL's forecast corporate overhead costs, the AER considers that these costs should be accounted for when comparing ActewAGL's cost structure with other gas distribution businesses.

The AER considers that ActewAGL's forecast corporate overhead expenditure should be adjusted to account for the AER's revised real cost escalators as previously discussed. The AER considers that this adjustment is required so that ActewAGL's forecast corporate overhead expenditure is arrived at on a reasonable basis and represents the best forecast or estimate possible in the circumstances, as required in r. 74(2) of the NGR. The AER also considers that the adjustment is necessary so that the expenditure meets the operating expenditure criteria as required by r. 91 of the NGR. The AER requires ActewAGL to amend its forecast corporate overhead expenditure as shown in amendment 9.1.

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446 ActewAGL, *Access arrangement information*, June 2009, pp. 181–182.

447 ActewAGL, *Access arrangement information*, June 2009, p. 183.

9.5.4.3 Non-system asset usage charge

The non-system asset usage charge is a charge paid to JAM for the return on and return of capital on assets that are owned by JAM used to provide services to ActewAGL.[448] ActewAGL submits that JAM uses non-system assets including motor vehicles, plant, machinery and equipment (including office equipment) to execute the DAMS Agreement with ActewAGL. The charge is based on a fixed pool of assets where old assets are replaced with new assets as required, without an allowance for increases in capital arising from the enlargement of the gas network.[449]

The AER notes that ActewAGL's forecast non-system asset usage charge expenditure is expected to remain constant in real terms. ActewAGL submits that the non-system asset usage charge was initially calculated on the non-system assets in place at the time of ActewAGL's first access arrangement and using the cost of capital applicable at that time. The charge has been carried forward from that time, as agreed between ActewAGL and JAM and has been reviewed only at a high level commensurate with its low materiality.[450]

The AER considers that ActewAGL's forecast of expenditure related to its non-system asset usage charge has been arrived at on a reasonable basis and represents the best forecast or estimate possible in the circumstances, as required by r. 74(2) of the NGR. The AER also considers that it meets the operating expenditure criteria as required by r. 91 of the NGR.

9.5.4.4 Marketing and other controllable direct costs

ActewAGL forecasts a 16.0 per cent increase in marketing expenditure[451] and a 123.7 per cent increase in 'other direct' controllable direct costs in real terms over the access arrangement period when compared with the earlier access arrangement period.

ActewAGL advises that its forecast marketing expenditure is split between those marketing costs incurred via JAM under the DAMS Agreement and those costs directly incurred by ActewAGL.[452] The marketing costs directly incurred by ActewAGL include the costs of promoting network safety and protection and costs associated with generic gas marketing campaigns. These costs are constant in real terms. The marketing costs which are incurred by JAM are proposed to increase in real terms due to the labour component of the activity. This expenditure covers costs of marketing the network and negotiations with property developers.[453]

With regard to 'other direct' costs, the AER notes that all of ActewAGL's forecast increase occurs in year four of the access arrangement period (i.e. 2013–14) and is related to the regulatory costs of preparing the next access arrangement proposal.

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448 ActewAGL, *Access arrangement information*, June 2009, p. 183.

449 ActewAGL, *Email response to the AER's questions*, 7 August 2009, question 13, p. 6.

450 ActewAGL, *Email response to the AER's questions*, 7 August 2009, question 14 (b), p. 7.

451 The forecast average annual real increase in marketing expenditure over the access arrangement period is 1.0 per cent. Marketing expenditure grew more rapidly during the earlier access arrangement period.

452 ActewAGL, *Email response to the AER's questions*, 7 August 2009, question 16, p. 8.

453 ActewAGL, *Meeting with the AER and Wilson Cook*, 13 August 2009.

These regulatory costs were previously capitalised in accordance with the decisions by the ICRC.[454] The amount forecast for preparation of ActewAGL's access arrangement proposal for the period commencing 1 July 2015 is broadly consistent with historical expenditure. The matter of past regulatory costs is considered in chapter 3 of the draft decision.

However, the AER considers that ActewAGL's forecast marketing expenditure and 'other direct' controllable direct costs should be adjusted to account for the AER's revised real cost escalators as previously discussed. The AER considers that this adjustment is required so that ActewAGL's forecast marketing expenditure and 'other direct' controllable direct costs are arrived at on a reasonable basis and represent the best forecasts or estimates possible in the circumstances as required in r. 74(2) of the NGR. The AER also considers that the adjustment is required so that the expenditure meets the operating expenditure criteria as required in r. 91 of the NGR. The AER requires ActewAGL to adjust forecast marketing expenditure and 'other direct' controllable direct costs as shown in amendment 9.1.

9.5.5 Forecast non-controllable operating expenditure

The AER notes significant increases for all non-controllable cost categories when comparing ActewAGL's actual and forecast expenditure for the earlier access arrangement period with its proposed forecast expenditure for the access arrangement period. It also notes that in the previous access arrangement review ActewAGL had not proposed debt raising and self insurance costs as part of its operating expenditure. The inclusion of debt raising and self insurance costs in this access arrangement proposal therefore represent step changes in ActewAGL's total operating expenditure.

The AER's analysis and consideration of ActewAGL's non-controllable costs by category is discussed below. Though not included in total operating expenditure, ActewAGL's proposed equity raising costs are reviewed.

9.5.5.1 Government charges

ActewAGL's operating expenditure includes government charges which consist of government levies such as the energy industry levy and the AEMO fee, and the UNFT. The AER notes that there is a 28.3 per cent increase in real terms in ActewAGL's government levies forecast in the access arrangement period compared to the earlier access arrangement period and that over the same period there is a 37.8 per cent increase in the UNFT.

ActewAGL is proposing increases in real terms in the AEMO fee and in the UNFT over the access arrangement period. It submits that its estimate of the energy industry levy ($527 000 ($2009–10)) has been escalated by CPI.[455] As previously discussed, ActewAGL is proposing a step change in expenditure of $50 000 ($2009–10)[456] in 2011–12, which is due to an expected increase in AEMO fees.

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454 ActewAGL, *Access arrangement information*, June 2009, p. 171.

455 ActewAGL, *Access arrangement information*, June 2009, p. 185.

456 ActewAGL, *Access arrangement information*, June 2009, p. 185.

ActewAGL submits that it is difficult to estimate future UNFT liabilities and that its forecast is based on the ACT government's UNFT revenue projections.[457] The AER notes that ActewAGL's forecast UNFT is expected to increase at an average of 1.4 per cent per annum in real terms over the access arrangement period.

As previously discussed the AER considers that ActewAGL has provided insufficient information to support its proposal for higher AEMO fees. The AER considers that the increase in operating expenditure associated with the expected increase in AEMO fees is not supported by information to establish that the forecast is arrived at on a reasonable basis and does not represent the best forecast possible in the circumstances, as required by r. 74. The AER also considers that it does not meet the criteria set out in r. 91 of the NGR. Therefore the AER does not approve the forecast expenditure related to the increased AEMO fee (step change) as proposed by ActewAGL and requires ActewAGL to adjust its forecast operating expenditure as set out in amendment 9.1.

With respect to ActewAGL's forecast UNFT expenditure, the AER considers that this expenditure is arrived at on a reasonable basis and represents the best forecast possible in the circumstances, as required by r. 74 of the NGR. Therefore the AER approves the forecast UNFT expenditure as proposed by ActewAGL.

The AER accepts that it is difficult for ActewAGL to forecast this UNFT expenditure to a high level of confidence given the uncertainty surrounding this tax. With this in mind, the AER has decided to approve ActewAGL's proposed cost pass through event for future differences between actual and forecast UNFT costs as a symmetrical tax change event (as discussed in chapter 13). This means ActewAGL will be required to pass on to consumers any increases or reductions in future UNFT costs incurred.

The AER notes that ActewAGL seeks the ability to pass through any future increase in the other government charges (the energy industry levy and the AEMO fee through the proposed annual tariff variation. As discussed in chapter 13, the AER may approve the pass through of these regulatory and government costs using a cost pass through mechanism. If such an event occurs, ActewAGL will need to apply to the AER for approval of the amount it proposes to pass through in accordance with r. 97(4) and r. 91 of the NGR.

9.5.5.2 Contestability

ActewAGL forecasts a 12.1 per cent increase in real terms in contestability expenditure over the access arrangement period when compared to the earlier access arrangement period. This expenditure is for the cost of a charge payable to JAM for additional management services required to support full retail contestability. ActewAGL submits that the increase in its forecast contestability expenditure is due to escalation.[458]

As previously discussed, ActewAGL has provided the AER with limited information concerning the underlying activities and associated costs incurred for JAM under the

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457 ActewAGL, *Access arrangement information,* June 2009, p. 185.

458 ActewAGL, *Access arrangement information*, June 2009, pp 185–186.

DAMS Agreement. The AER considers that this lack of detailed information limits its ability to make a detailed and thorough assessment of operating expenditure against r. 91 of the NGR.

As previously discussed, the AER considers that ActewAGL's forecast contestability expenditure should be adjusted to account for the AER's conclusions on ActewAGL's proposed real cost escalators. The AER considers that this adjustment is required so that ActewAGL's forecast contestability expenditure is arrived at on a reasonable basis and represents the best forecast or estimate possible in the circumstances as required in r. 74(2) of the NGR. The AER also considers that this adjustment is necessary so that the expenditure meets the operating expenditure criteria as required in r. 91 of the NGR. The AER requires ActewAGL to amend its forecast contestability expenditure as shown in amendment 9.1.

9.5.5.3 Unaccounted for gas

UAG is generally defined as the difference between gas receipts (measured at the transfer stations) and gas deliveries (measured at the customer's meter), allowing for corrections due to changes in the quantities of gas stored in the pipeline. It is the result of a variety of factors, including leakage from the system, metering errors, theft and inaccuracies in converting quantities of gas measured to energy.

The ICRC's final decision in 2004 provided an allowance for UAG based on one per cent of total throughput. The ICRC accepted that the cost of the UAG be subject to the outcome of a tender.[459] ActewAGL submits that the allowance of one per cent is too low. It considers that a level of 1.8 per cent of receipts represents an efficient level. It bases this assessment on its own experience with UAG and international comparisons.[460]

ActewAGL also proposes using the annual tariff variation mechanism to make adjustments to account for variations between the actual and forecast purchase price of UAG.[461]

The AER notes that there is a 67.8 per cent increase in real terms in UAG costs forecast in the access arrangement period compared to the earlier access arrangement period. ActewAGL submits that over the course of the earlier access arrangement period the level of UAG fluctuated between 0.5 and 1.8 per cent of gas receipts, with a mean of 1.3 per cent. ActewAGL notes that there has been a marked rise in the level of UAG since 2005 but the volatility has decreased, with an average of 1.6 per cent UAG observed between 2005 and 2008.[462] ActewAGL submits that it has investigated this increasing trend in UAG and concludes that it is caused by:

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459 ICRC, *Final Decision: Review of access arrangement for ActewAGL natural gas system in ACT Queanbeyan and Yarrowlumla,* October 2004, p. 93.

460 ActewAGL, *Access arrangement information*, June 2009, p. 186.

461 ActewAGL, *Access arrangement information*, June 2009, p. 189.

462 ActewAGL, *Access arrangement information,* June 2009, pp. 187–188.

- the impact of moving from one to two network receipt points in 2002 and a shifting of the supply balance between these two receipt points over the subsequent period

- the installation during 2006–07 and increasing use of four water bath heaters (WBH). Until recently this WBH consumption was unmetered, and

- the prudent extension of customer meter lives with an associated reduction in meter accuracy and increased numbers of undetected, non-registering meters.[463]

The AER engaged Wilson Cook to review the level of UAG forecast for ActewAGL's network. The Wilson Cook Report concludes that the 1.8 per cent level proposed by ActewAGL represents a maximum figure rather than an average. The Wilson Cook Report notes that ActewAGL's references to its figure are couched in terms of 'up to' 1.8 per cent. The Wilson Cook Report recommends a forecast UAG level of 1.7 per cent on the basis of actual reported levels of UAG.[464]

The AER agrees with the Wilson Cook Report's conclusion that the 1.8 per cent represents a maximum figure and is not a fair representation of ActewAGL's actual UAG levels observed in recent years. The AER considers that ActewAGL's proposed forecast level of UAG has not been arrived at on a reasonable basis and does not represent the best forecast or estimate possible under the circumstances as required by r. 74(2) of the NGR. In addition to this, the AER does not consider that it represents the amount of UAG that would be incurred by a prudent service provider acting efficiently.

The AER notes that since April 2008, ActewAGL has made adjustments to its UAG for WBH consumption and that ActewAGL is consequently expecting a reduction of 0.2 per cent in its UAG level.[465] Expenditure on gas for WBH consumption is included in the category 'other costs'.[466] Given this expected reduction and Wilson Cook's observations on the representation of ActewAGL's actual UAG levels in recent years, the AER considers that a forecast level of UAG of 1.5 per cent is more reasonable (i.e. the Wilson Cook Report's recommended level of 1.7 per cent less the 0.2 per cent reduction for WBH consumption which is separately provided for).

For the reasons discussed above, the AER considers that a forecast level of 1.5 per cent for the access arrangement period represents an efficient level of UAG for ActewAGL's network. The AER considers that this forecast has been arrived at on a reasonable basis and represents the best forecast or estimate possible under the circumstances, as required by r. 74(2) of the NGR.

With regard to the forecast price of UAG used to calculate the forecast cost of UAG, ActewAGL submits that it has used $8.75/GJ ($2008–09) based on its most recent tenders for UAG.[467] The AER notes that in a recent report prepared for NEMMCO,

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463 ActewAGL, *Access arrangement information*, June 2009, pp. 188–189.

464 Wilson Cook Report, 29 October 2009, pp. 18–19.

465 ActewAGL, *Access arrangement information*, June 2009, p. 190.

466 ActewAGL, *Access arrangement information*, June 2009, p. 200.

467 ActewAGL, *Access arrangement information*, June 2009, p. 189.

ACIL has provided forecast delivered gas prices to Canberra which are much lower than ActewAGL's forecast price.[468] ACIL's average price over the access arrangement period is $5.27/GJ ($2009–10).[469] For this reason, the AER considers that ActewAGL's forecast gas price has not been arrived at on reasonable basis and does not represent the best forecast or estimate possible under the circumstances, as required by r. 74(2) of the NGR.

Given the changes discussed above, the AER has estimated ActewAGL's forecast UAG costs over the access arrangement period as set out in Table 9.7. This estimate is derived from:

- ActewAGL's total demand forecast, which the AER considers to have been arrived at on a reasonable basis and represents a best estimate or forecast possible in the circumstances, as required by r. 74(2) of the NGR. This is discussed in chapter 11

- a forecast level of UAG of 1.5 per cent which AER considers has been arrived at on a reasonable basis and represents the best estimate or forecast possible in the circumstances, as required by r. 74(2) of the NGR. The AER also considers that this forecast meets the requirements of r. 91 of the NGR

- a UAG quantity calculated from ActewAGL's total demand forecast and a forecast level of UAG of 1.5 per cent, and

- ACIL's forecast delivered gas prices to Canberra sourced from a report prepared for NEMMCO.[470] The AER considers that ACIL's gas prices represent the best estimate or forecast possible in the circumstances, as required by r. 74(2) of the NGR.

468 ACIL, *Fuel resource, new entry and generation costs in the NEM, Final report*, April 2009, p. 69.

469 For new CCGT CAN, ACIL, *Fuel resource, new entry and generation costs in the NEM, Final report*, April 2009, p. 69.

470 ACIL, *Fuel resource, new entry and generation costs in the NEM, Final report*, April 2009, p. 69.

Table 9.7: Unaccounted for gas (units as stated)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
Total system demand (GJ)	7 711 000	7 696 000	7 744 000	7 834 000	7 946 000	38 931 000
Forecast UAG (%)	1.5	1.5	1.5	1.5	1.5	
UAG quantity (GJ) = Total system demand x forecast UAG	115 665	115 440	116 160	117 510	119 190	583 965
Delivered gas price ($/GJ) ($2009–10)	5.31	5.23	5.25	5.27	5.29	
Total UAG costs ($m, real 2009–10) = UAG quantity x delivered gas price / 1000 000	0.6	0.6	0.6	0.6	0.6	3.1

Source: ActewAGL, *Access arrangement information*, June 2009, p. 91; AER's estimated forecast UAG level; For new CCGT CAN, ACIL, *Fuel resource, new entry and generation costs in the NEM, Final report,* April 2009, p. 69.

The AER requires ActewAGL to amend its forecast UAG costs as outlined in amendment 9.1. Further, the AER notes that ActewAGL is proposing an adjustment to its annual tariff variation formula so that it takes into account the difference between forecast and actual costs associated with unaccounted for gas. As discussed in chapter 13, the AER does not approve this proposed adjustment to the tariff variation formula but is proposing that the difference between forecast and actual costs associated with unaccounted for gas be treated as a low materiality threshold cost pass through event. If such an event occurs, ActewAGL will need to apply to the AER for approval of the amount it proposes to pass through consistent with r. 97(4) and r. 91 of the NGR.

9.5.5.4 Other forecast operating expenditure

ActewAGL forecasts a 28.2 per cent increase in real terms in 'other' non-controllable costs forecast in the access arrangement period compared to the earlier access arrangement period. This expenditure includes costs related to insurance and auditing fees, and the cost of network gas associated with the operation of the WBHs.[471] As previously discussed, before April 2008 the gas consumed by the WBHs was unmetered and this consumption was included in ActewAGL's actual level of UAG. The cost of this gas is now directly accounted for in ActewAGL's forecast operating expenditure. ActewAGL submits that its 'other' direct costs are expected to remain stable over the access arrangement period and only increase in line with escalation.[472]

[471] ActewAGL, *Access arrangement information*, June 2009, p. 200.

[472] ActewAGL, *Access arrangement information*, June 2009, p. 200.

The AER considers that ActewAGL's forecast non escalated 'other' non-controllable costs are appropriate and reasonable. However it considers that these costs should be adjusted to account for the AER's revised real cost escalators as previously discussed. The AER considers that these adjustments are required so that ActewAGL's forecast 'other' non-controllable costs are arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances, as required by r. 74(2) and r. 91 of the NGR. The AER requires ActewAGL to adjust its forecasts of 'other' non-controllable costs as shown in amendment 9.1.

9.5.5.5 Debt raising costs

ActewAGL proposes the inclusion of $1.1 million for total debt raising costs in accordance with the methodology applied by the AER in the recent electricity decisions.[473] A unit rate of 10.4 basis points per annum was used to derive the proposed debt raising costs.[474]

The AER considers that ActewAGL has correctly calculated its debt raising costs in accordance with the methodology approved by the AER in the recent electricity decisions. However, the AER notes that based on the revised forecast capital expenditure profile approved by the AER,[475] the operating expenditure for debt raising costs calculated with the methodology adopted by ActewAGL is lower than the amount ActewAGL proposes. The AER considers that the revised costs are arrived at on a reasonable basis and represent the best estimate possible in the circumstances as required by r. 74 of the NGR. The AER also considers that the cost is consistent with the expenditure that would be incurred by a prudent service provider acting efficiently, as set out in r. 91 of the NGR. The AER requires ActewAGL to amend its debt raising costs as outlined in amendment 9.1.

9.5.5.6 Equity raising costs

ActewAGL proposes equity raising costs of $0.5 million ($2009–10) for the access arrangement period.[476] ActewAGL submits that this value is calculated with the model applied by the AER in its April 2009 final decisions for NSW and ACT electricity distribution businesses.[477] The equity raising costs are a result of the large increase in proposed capital expenditure. ActewAGL proposes that equity raising costs be capitalised and amortised over the life of its capital base. ActewAGL submits that this is consistent with the approach applied by the AER in its April 2009 final decisions for NSW and ACT electricity distribution businesses.[478] Accordingly, equity raising costs are not included in ActewAGL's proposed operating expenditure forecast.

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473 AER, *Final decision: Australian Capital Territory distribution determination 2009–10 to 2013–14*, April 2009, appendix H.

474 ActewAGL, *Access arrangement information*, June 2009, p. 208.

475 The revised forecast capital expenditure approved by the AER is discussed in chapter 3 of the draft decision.

476 ActewAGL, *Access arrangement information*, June 2009, p. 131.

477 AER, *Final decision: Australian Capital Territory distribution determination 2009–10 to 2013–14*, April 2009, appendix H.

478 ActewAGL, Access arrangement information, June 2009, pp. 129–130.

The AER has undertaken an assessment of ActewAGL's proposed benchmark cash flows and has found that the funding requirements for capital expenditure require external equity. However, the AER notes that based on ActewAGL's revised forecast capital expenditure profile as approved by the AER,[479] no operating expenditure is required for equity raising costs. The AER considers that in the circumstances of ActewAGL's approved forecast capital expenditure profile, equity raising costs would not be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services, as set out in r. 91 of the NGR.

9.5.5.7 Self insurance

ActewAGL proposes an annual $0.5 million ($2009–10) insurance premium for self insurance, totalling $2.7 million ($2009–10) over the access arrangement period.[480] ActewAGL supports its annual self insurance premiums by reference to a confidential report provided by Marsh Pty Ltd.[481] It notes that the ActewAGL Board of Management formally noted the self insurance quantification provided by Marsh at its 27 June 2009 meeting.[482] ActewAGL submits that it cannot provide the AER with details of insurance quotes.[483]

ActewAGL submits that it will treat the self insurance activity in its audited accounts as a normal operating expense and that it is not required to separately disclose this activity in its financial statements.[484] However, ActewAGL submits that it will disclose the self insurance premium if the premium meets the contingent liability requirements under Australian Accounting Standards.[485]

ActewAGL proposes that if a self insurance event approved by the AER occurs during the access arrangement period, it will notify the AER as part of its annual compliance reporting.[486]

ActewAGL did not seek operating expenditure for self insurance in its earlier access arrangement that was approved by the ICRC. ActewAGL's proposal raises for the first time a self insurance premium allowance for certain risk events. The reason for this amendment is not made clear nor is the change in the nature of risks and costs over time to support this proposal.

The AER notes that self insurance for certain events has been considered previously by the Australian Competition Tribunal (Tribunal) in the GasNet decision[487] and the

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479 The revised forecast capital expenditure approved by the AER is discussed in chapter 3 of the draft decision.

480 ActewAGL, *Access arrangement information*, June 2009, p. 205.

481 ActewAGL, *Access arrangement information*, June 2009, p. 206 and attachment C (confidential).

482 ActewAGL, *Access arrangement information*, June 2009, p. 206.

483 ActewAGL, *Access arrangement information*, June 2009, p. 206.

484 ActewAGL, *Access arrangement information*, June 2009, p. 206.

485 ActewAGL, *Access arrangement information*, June 2009, p. 207.

486 ActewAGL, *Access arrangement information*, June 2009, p. 207.

487 Australian Competition Tribunal (Tribunal) –*Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6*, 23 December 2003.

ACCC[488] . These decisions for gas transmission pipelines were considered under the Code. In addition to this, the AER has accepted operating expenditure for self insurance events under the National Electricity Code and the National Electricity Law.[489]

Self insurance is appropriate for the coverage of risks that may not be fully or partially externally insured and are not provided for in another total revenue building block.

ActewAGL proposes self insurance for certain business risks. The AER analysis and consideration of ActewAGL's self insurance allowance is provided at appendix C. The AER has assessed the proposal in accordance with r. 91 of the NGR and considers that ActewAGL has not adequately specified the relevance of the risks to its business or provided for a self insurance premium arrived at on a reasonable basis to provide a best forecast.[490] The AER notes that in the circumstance of an adverse event occurring ActewAGL can vary its access arrangement or in some cases seek a cost pass through in order to recover the cost of the adverse event.

9.5.6 Summary

As outlined above, the AER does not consider that the forecast operating expenditure proposed by ActewAGL complies with r. 91 of the NGR and it accordingly requires it to:

- adjust the average per person per day rate used to calculate the cost of step changes relating to technical regulation
- include a $9840 reduction as an offset when the Queanbeyan TRS is introduced (from 2011–12) and to delay the introduction of the Phillip PRS upgrade to 2015 (these changes have been confirmed by ActewAGL)
- remove ActewAGL's proposed AEMO step change of $50 000 per annum from the Government levies category
- remove the costs associated with market developments and responding to shortfall events
- use a different real cost escalators to those applied by ActewAGL

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488 ACCC, *Final decision, revised access arrangement by GasNet Australia (Operations) Pty Ltd and GasNet (NSW) Pty Ltd for the principal transmission system*, 30 April 2008; ACCC, *Draft decision, revised access arrangement by GasNet Australia Ltd for the principal transmission system,* 14 November 2007; ACCC, *Final decision, GasNet Australia access arrangement revisions for the principal transmission system*, 13 November 2002.

489 AER, *Final decision: New South Wales distribution determination 2009–10 to 2013–14*, April 2009; AER, *Final decision: Australian Capital Territory distribution determination 2009–10 to 2013–14*, April 2009; AER, *Final decision: TransGrid transmission determination 2009–10 to 2013–14*, April 2009; AER, *Final decision: SP AusNet transmission determination 2008–09 to 2013–14*, January 2008; AER, *Final decision: Powerlink Queensland transmission network revenue cap 2007–08 to 2011–12*, June 2007; AER, *Draft Decision: ElectraNet transmission determination 2008–09 to 2012–13*, November 2007; ACCC, *Final decision, NSW and ACT transmission network revenue cap TransGrid 2004–05 to 2008–09*, April 2005.

490 NGR, r. 74(2).

- forecast a different UAG cost based on a different level of UAG and a revised gas price (per GJ)
- reduce the forecast expenditure on gas for WBH, based on the unit rate per GJ assumed in the AER's UAG forecast
- estimate the debt raising costs using the same methodology as ActewAGL but with the AER's approved capital expenditure and the resultant capital base in each year of the access arrangement period, and
- remove the forecast operating expenditure for self insurance.[491]

The AER also requires ActewAGL to create, maintain and keep a 'statement of costs' in order to obtain detailed information on the costs incurred from JAM in the access arrangement period.

9.6 Conclusion

The AER does not propose to approve the forecast operating expenditure proposed by ActewAGL as it does not comply with r. 91 of the NGR and requires ActewAGL to make the amendments set out below.

9.7 Amendments required to the access arrangement proposal

Before the access arrangement proposal can be accepted, ActewAGL must make the following amendments:

Amendment 9.1: amend the access arrangement information to

- delete Table 9.25 and replace it with the following table
- delete Table 9.11 and replace it with the following table (excluding debt raising and self insurance costs)

[491] The AER notes that many of the proposed risks to be covered by self insurance may be appropriately considered as a cost pass through rather than self insurance.

Table 9.8: ActewAGL's forecast operating expenditure ($m, real, 2009–10)

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
Controllable costs						
Operating and maintenance	9.3	11.0	11.1	9.8	10.0	51.2
Corporate overheads	3.2	3.2	3.2	3.3	3.3	16.2
Non-system asset charge	0.5	0.5	0.5	0.5	0.5	2.6
Marketing	1.3	1.3	1.3	1.3	1.3	6.7
Other controllable costs	0.2	0.2	0.2	1.0	0.8	2.6
Sub total	14.6	16.2	16.4	16.0	16.1	79.3
Non-controllable costs						
Government levies	0.7	0.7	0.7	0.7	0.7	3.3
UNFT	3.4	3.5	3.5	3.6	3.6	17.5
Contestability costs	0.6	0.6	0.6	0.6	0.6	2.8
UAG	0.6	0.6	0.6	0.6	0.6	3.1
Other costs	0.3	0.3	0.3	0.3	0.3	1.3
Debt raising costs	0.2	0.2	0.2	0.2	0.2	0.9
Self insurance costs	0.0	0.0	0.0	0.0	0.0	0.0
Sub total	5.7	5.7	5.8	5.8	5.9	28.9
Total operating expenditure	**20.2**	**22.0**	**22.2**	**21.8**	**22.0**	**108.2**

Amendment 9.2: make any and all consequential amendments necessary to take account of and reflect amendment 9.1, including updating nominal values in Table 10.5 in the access arrangement information.

Amendment 9.3: amend the access arrangement proposal to include a new section 4.26:

> Statement of costs
>
> For each 12 month period ending on 30 June during the Access Arrangement Period, ActewAGL must maintain records for:
>
> (a) JAM fees—any fees payable by ActewAGL to Jemena Asset Management Pty Ltd (JAM) in relation to field and asset management services provided under their distribution asset management services agreement (or any other replacement asset management services agreement);

(b) ActewAGL controllable costs—costs which can be controlled or varied by ActewAGL. For example, without limitation, direct materials or direct labour costs can be varied by management through making different managerial decisions; and

(c) ActewAGL non-controllable costs—costs that ActewAGL cannot control or vary. For example, without limitation, government levies and taxes.

An indicative breakdown of these fees and costs and the information to be maintained for each item is set out in Attachment 9. ActewAGL must provide this information for the fees and costs to the Relevant Regulator as part of its proposed revisions to this Access Arrangement under clause 1.16.

Amendment 9.4: amend the access arrangement proposal to include the new attachment 9 set out in appendix D of the draft decision.

10 Total revenue

10.1 Introduction

This chapter sets out the AER's calculation of annual revenue requirements for ActewAGL for the provision of pipeline services for each year of the access arrangement period. This chapter also sets out the X factors for ActewAGL's reference services ActewAGL's X factors are indicative only.

10.2 Regulatory requirements

Rule 72(1)(m) of the NGR provides that the access arrangement information for a full access arrangement proposal must include the total revenue to be derived from pipeline services for each regulatory year of the access arrangement period.

Rule 76 of the NGR provides that total revenue is to be determined for each regulatory year of the access arrangement period using the building block approach in which the building blocks are:

- a return on the projected capital base for the year
- depreciation on the projected capital base for the year
- if applicable—the estimated cost of corporate income taxation for the year
- increments or decrements for the year resulting from the operation of an incentive mechanism to encourage gains in efficiency, and
- a forecast of operating expenditure for the year.

10.3 ActewAGL's proposal

ActewAGL's proposed total revenue requirement for each year of the access arrangement period and indicative X factors are set out in Table 10.1.

Table 10.1: ActewAGL's proposed annual revenue requirements and X factors ($m, nominal, unless otherwise stated)

	2010–11	2011–12	2012–13	2013–14	2014–15
Return on capital	30.9	33.4	41.7	52.9	53.7
Depreciation	3.7	4.7	4.9	4.8	5.1
Operating and maintenance	22.3	24.9	26.1	26.4	27.2
Corporate income taxation	1.2	1.4	1.6	2.0	2.0
Incentive mechanism payments	na	na	na	na	na
Total	58.0	64.4	74.3	86.0	88.0
X factor tariff revenue (%) [a b]	–12.2	–12.2	–12.2	–12.2	–12.2

Source: ActewAGL, *Access arrangement information*, June 2009, pp. 213, 220.
na: Not applicable.
a: Negative values for X indicate real price increases under the CPI–X formula.
b: X factors are indicative only.

10.4 AER's analysis and considerations

The building blocks proposed by ActewAGL are addressed in the AER's considerations of ActewAGL's proposed depreciation, return on capital, taxation, incentive mechanisms and operating expenditure in Part A of this draft decision.

10.4.1 ActewAGL's proposed P0 adjustment and X factors

The P0 adjustment indicates the increase in the total revenue requirement in the first year of the access arrangement, while the X factors indicate subsequent increases. The P0 adjustment and X factors proposed by ActewAGL are indicative only.[492] The AER notes from Table 10.1 that ActewAGL has proposed the same percentage amount for the indicative P0 adjustment and X factors for the access arrangement period.[493]

10.4.2 Total revenue, P0 adjustment and X factors

The AER has calculated ActewAGL's total revenue, P0 adjustment and X factors based on its decisions regarding the building block components discussed in Part A of the draft decision. These calculations are summarised in Table 10.2.

The AER's draft decision results in a total revenue requirement over the next access arrangement period of $301.4 million, compared to $370.7 million proposed by ActewAGL. The main reasons for this difference reflect the AER:

- not approving ActewAGL's proposed capital base, particularly the Hoskinstown to Fyshwick loop (HFL).

[492] ActewAGL, *Access arrangement information*, June 2009, p. 220.

[493] ActewAGL, *Access arrangement information*, June 2009, p. 220.

- not approving ActewAGL's proposed WACC.

Table 10.2: AER's conclusion on ActewAGL's annual revenue requirements and X factors ($m, nominal, unless otherwise stated)

	2010–11	2011–12	2012–13	2013–14	2014–15
Return on capital	28.1	30.6	32.9	33.8	34.4
Depreciation	2.4	3.5	4.0	4.7	5.3
Operating and maintenance	20.7	23.1	23.9	24.1	24.8
Corporate income taxation	0.8	1.0	1.1	1.1	1.2
Incentive mechanism payments	na	na	na	na	na
Total	52.1	58.1	61.9	63.6	65.7
X factor tariff revenue[a] (%)	–5.2	–5.2	–5.2	–5.2	–5.2
Smoothed revenue path	51.4	55.2	59.9	65.2	71.2

Source: Table 10.2 is based on information found in chapters 4,5,6,7 and 8 of the draft decision.
na: Not applicable.
a: The X factors in the Table above are indicative only. Negative values for X indicate real increases.

ActewAGL must amend the access arrangement information as outlined in amendment 10.1.

10.4.3 Miscellaneous change

The AER notes the second sentence of section 4.2 of the access arrangement proposal does not provide an accurate description of r. 76 of the NGR because it has a meaning which is broader than r. 76.[494] The AER considers the sentence should be deleted and the reference to 'section 76' in the first sentence of section 4.2 should be changed to 'rule 76'.

10.5 Conclusions

The AER does not propose to approve the total revenue figures for each regulatory year of the access arrangement period proposed by ActewAGL as they do not comply with r. 76 of the NGR and requires ActewAGL to make the amendments set out below.

10.6 Amendments required to the access arrangement proposal

Before the access arrangement proposal can be accepted, ActewAGL must make the following amendments:

494 ActewAGL, *Access arrangement proposal*, June 2009, p. 18

Amendment 10.1: delete Table 10.1 in the access arrangement information and replace it with the following Table 10.3 and make any and all consequential amendments to Table 10.4 of the access arrangement information.

Table 10.3: Revenue requirement for ActewAGL's ACT, Queanbeyan and Palerang gas network 2010–11 to 2014–15 ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15
Return on capital	28.1	30.6	32.9	33.8	34.4
Depreciation	2.4	3.5	4.0	4.7	5.3
Operating and maintenance	20.7	23.1	23.9	24.1	24.8
Corporate income tax	0.8	1.0	1.1	1.1	1.2
Incentive mechanism payments (decrements)	na	na	na	na	na
Total	52.1	58.1	61.9	63.6	65.7

na: Not applicable.

Amendment 10.2: delete Table 10.12 in the access arrangement information and replace it with the following:

Table 10.4: Calculation of revenue allowance the reference tariff ($m, nominal unless otherwise stated)

	2010–11	2011–12	2012–13	2013–14	2014–15
Regulatory depreciation	2.4	3.5	4.0	4.7	5.3
Return on capital	28.1	30.6	32.9	33.8	34.4
Tax allowance	0.8	1.0	1.1	1.1	1.2
Operating expenditure	20.7	23.1	23.9	24.1	24.8
Incentive mechanism payments (decrements)	na	na	na	na	na
Unsmoothed revenue requirement	52.1	58.1	61.9	63.6	65.7
Energy forecasts (TJ)	6545.0	6525.2	6565.5	6641.6	6736.0
Revenue yield (tariff/TJ)	7557.9	8144.3	8776.2	9457.2	10191.0
Smoothed revenue requirement	51.4	55.2	59.9	65.2	71.2
of which tariff revenue	49.5	53.1	57.6	62.8	68.6
of which contract revenue	2.0	2.1	2.2	2.4	2.6

X factor tariff revenue (%)	–5.2	–5.2	–5.2	–5.2	–5.2

na: Not applicable.

Amendment 10.3: amend the access arrangement proposal to:

- delete the word ‘section’ in the first sentence of section 4.2 and replace it with ‘rule’.
- delete from section 4.2 the following:

> In accordance with section 76 of the National Gas Rules, total revenue is the cost of providing all Services, and is calculated as:
>
> (a) a return on the Capital Base;
>
> (b) depreciation of the Capital Base;
>
> (c) if applicable, the estimate cost of corporate income tax for the year;
>
> (d) increments or decrements for the year resulting from the operation of an incentive mechanism to encourage gains in efficiency; and,
>
> (e) a forecast of operating expenditure for the year.

Part B – Tariffs

11 Demand Forecasts

11.1 Introduction

This chapter examines ActewAGL's demand forecasts and whether the AER's analysis and considerations as to whether they reflect a reasonable estimate of growth in demand over the access arrangement period. Accurate and reasonable demand forecasts are important for two reasons. First, they affect the calculation of total revenue and through this reference tariffs. Second, they underpin the forecasts for capital and operating expenditures.

If demand forecasts are overstated, reference tariffs will be set too low to recover total revenue over the access arrangement period. In addition, the forecasts for capital and operating expenditure will likely be overstated because the service provider will plan for higher usage and growth on the network, as well as for the earlier replacement of assets assuming higher usage rates. The converse may be true if demand forecasts are understated.

11.2 Regulatory requirements

Rules 72(1)(a)(iii) and 72(1)(d) of the NGR provide that the access arrangement information for a full access arrangement proposal must include:

- Usage of the pipeline over the earlier access arrangement period showing, for a distribution pipeline, minimum, maximum and average demand; and customer numbers in total and by tariff class.

- To the extent that it is practicable to forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period, a forecast of pipeline capacity and utilisation of pipeline capacity over that period and the basis on which the forecast has been derived.

Rule 74(1) of the NGR provides that any information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate. Rule 74(2) of the NGR provides that a forecast or estimate must be arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances.

11.3 ActewAGL's proposal

ActewAGL provides volume forecasts for the tariff market (low volume residential and business) and for the contract market (high volume industrial and commercial customers). ActewAGL uses demand forecasts prepared by the National Institute of Economic and Industry Research (NIEIR)[495] adjusted for the anticipated impact of marketing expenditure. This is expected to increase demand by 18 TJ per annum (cumulatively) over the access arrangement period.[496]

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495 ActewAGL, *Access arrangement information for the ACT, Queanbeyan and Palerang gas distribution network*, June 2009, attachment G: NIEIR, *Natural gas projections for ActewAGL Distribution*.

496 ActewAGL, *Access arrangement information*, June 2009, p. 90.

The NIEIR states that the following factors affect demand forecasts: installation of new gas appliances (particularly the impact of electric powered reverse cycle air-conditioning systems in preference to gas space heaters), government energy policies and the implementation of the proposed CPRS.

In developing demand forecasts, NIEIR used macroeconomic and microeconomic analysis. The macro-analysis includes consideration of Gross State Product, population, demography, expenditure and investment trends. Microeconomic analysis includes historical consumption data, policy initiatives and weather variations.

Table 11.1 shows ActewAGL's actual and forecast annual demand for customer numbers and load. ActewAGL states that average growth in gas volumes will be significantly lower than average customer growth because new customers will consume less gas on average.[497]

The number of tariff customers (residential and small business) is increasing, consistent with historical trends. The number of contract customers (large commercial users) is slowly increasing.

In the earlier access arrangement period, tariff load exhibits a noticeable peak in 2005–06 and a trough in 2006–07. A major driver for residential gas demand is householders' use of heaters during winter, so that the peaks and troughs for annual tariff demand may be associated with unusually warm or cold winters in the ACT. In contrast, contract load was relatively stable over the same period reflecting predictable demand from the contract customers.

Table 11.2 shows ActewAGL's average, minimum and maximum daily demand figures for the earlier access arrangement period and the access arrangement period. Average and maximum daily demand exhibit a slight upward trend associated with network and customer growth.

Table 11.3 shows ActewAGL's actual and forecast demand for booked maximum daily quantity (MDQ). Contract MDQ is forecast to shift from levels of around 6200 GJ for the earlier access arrangement to higher levels of around 6700 GJ for the current access arrangement period.

ActewAGL states that pipeline capacity and utilisation is not available or meaningful for the distribution network.[498]

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497 ActewAGL, *Access arrangement information*, June 2009, pp. xiv, 87.

498 ActewAGL, *Access arrangement information*, June 2009, p. 82.

Table 11.1: Total annual actual and forecast load and customer numbers

	2004–05a	2005–06a	2006–07a	2007–08a	2008–09b	2009–10b	2010–11b	2011–12b	2012–13b	2013–14b	2014–15b
Tariff Customers (no.)	98 657	101 460	104 495	109 791	112 765	116 123	119 711	123 429	127 030	130 284	133 420
Tariff load (TJ)	6050	6584	5889	6370	6654	6514	6545	6525	6565	6642	6736
Contract Customers (no.)	36	38	37	38	40	41	41	41	41	41	42
Contract load (TJ)	1018	1082	1038	1020	1100	1149	1166	1171	1179	1192	1210
Total load (TJ)	7068	7666	6927	7390	7754	7663	7711	7696	7744	7834	7946

Source: ActewAGL, *Access arrangement information*, June 2009, pp. 75, 79, 91, 92.
a: Actual.
b: Forecast.

Table 11.2: Forecast average, maximum and minimum daily demand

	2004–05a	2005–06a	2006–07a	2007–08a	2008–09	2009–10	2010–11b	2011–12b	2012–13b	2013–14b	2014–15b
Minimum (TJ/day)	2.9	1.9	4	3.8	c	c	d	d	d	d	d
Maximum (TJ/day)	58	69	67	63	c	c	68.6	68.3	68.6	69.3	70.1
Average (TJ/day/annum)	20	20	19	20	c	c	21.1	21	21.1	21.3	21.5

Source: ActewAGL, *Access arrangement information*, June 2009, pp. 77, 91.
a: Actual .
b: Forecast.
c: Actual not available.

d: Minimum forecasts not provided.

Table 11.3: Contract MDQ

	2004–05a	2005–06a	2006–07a	2007–08a	2008–09b	2009–10b	2010–11b	2011–12b	2012–13b	2013–14b	2014–15b
System Total (GJ)	6221	6086	6245	6116	6384	6596	6677	6693	6721	6764	6827

Source: ActewAGL, *Access arrangement information*, June 2009, pp. 76, 91.
a: Actual.
b: Forecast.

11.4 Consultant's report

The AER engaged ACIL to assess the reasonableness of ActewAGL's demand forecasts and assess the actual demand compared to forecasts in the earlier access arrangement period.

ACIL reviewed the methodology and assumptions used by ActewAGL and its consultants, the NIEIR.

For the earlier access arrangement period the ACIL report concludes that:

- ActewAGL adequately explains why actual demand and customer numbers were lower than the forecasts allowed by ICRC, which ActewAGL submits were due to lower than forecast rates of construction of residential developments explaining the lower customer numbers. Other contributing factors to lower demand include increased energy efficiency measures, reduced hot water consumption and energy substitution.[499]

For the current access arrangement period the ACIL report concludes that:

- the NIEIR's methodology used to develop demand projections of total demand and customer numbers is well established and considered suitable for the ActewAGL gas network[500]

- the NIEIR's approach using normalised heating degree days to estimate gas demand, the impact of the gas marketing campaign, government policy and the economic prospects constitute a reasonable basis on which to develop gas demand forecasts[501]

- the adjustment made by ActewAGL adds 18 TJ cumulatively to the NIEIR forecast. ActewAGL submits that this is based on commercial experience, the increase is modest relative to total demand, and therefore, is not material in terms of the acceptability of the forecasts[502]

- forecasts for average demand are derived from analysis of annual usage. Peak load is calculated from annual winter monitoring data (because peak load data is not available for all customers including tariff customers). The approach taken to estimate average, minimum and maximum demand is appropriate,[503] and

- the assumptions made by NIEIR regarding economic growth, energy efficiency trends, the impact of government energy policies and the normalising of the heating degree days used to model weather impacts on gas demand are overall considered appropriate. The ACIL report notes that the macroeconomic indicators

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499 ACIL, *Review of demand forecasts for ActewAGL for the access arrangement period commencing 1 July 2010*, 18 September 2009, p. 11 (ACIL demand forecast report).

500 ACIL demand forecast report, 18 September 2009, p. 5.

501 ACIL demand forecast report, 18 September 2009, pp. 6–11.

502 ACIL demand forecast report, 18 September 2009, p. 6.

503 ACIL demand forecast report, 18 September 2009, pp. 15–16.

for the ACT may prove more favourable than assumed in the NIEIR report. However, the assumptions made by the NIEIR constitute a reasonable basis because economic growth over the regulatory period remains subject to significant uncertainty and the assumptions made by the NIEIR are within the range of reasonable probability.[504]

The ACIL report considers that ActewAGL's demand forecasts are appropriate and are forecast on a reasonable basis taking into consideration the data available at the time.[505]

11.5 AER's analysis and considerations

11.5.1 Introduction

In respect of the earlier access arrangement period, rule 72(1)(a)(iii) of the NGR requires a service provider to show minimum, maximum, and average demand, and customer numbers in total by tariff class. Rule 72(1)(d) of the NGR requires a forecast of pipeline capacity and utilisation, to the extent it is practicable, over the access arrangement period. The basis on which this forecast is derived must be included.

A few major factors influencing demand characteristics are urban development, customer choice to use gas or electric space or water heaters, increasing appliance efficiencies and other climatic factors that are increasing average temperatures resulting in lower demand for gas heating.

Of increasing importance is a service provider's ability to manage fluctuations in demand during the day. The increased use of instantaneous gas heaters or gas boosted solar water heaters, has had the effect of reducing the amount of gas used by customers because of increased efficiency of these appliances, but placing large constraints on the network at certain (peak) times during the day, such as in the evening. So overall demand is slowing but this demand is concentrated during the evening and morning peaks, rather than smoothed over the day. Therefore, in addition to total volume demand growth, a service provider must also consider the pipeline's capacity to deliver gas at these peak times during the day.

Normal variations in the supply and demand parameters dictate, however, that pressure variations across a gas network are not unusual. Unlike electricity, which may have to respond instantaneously to peak demand in order to maintain system integrity, gas pipelines maintain system integrity despite a reduction in pressure across the network. Up to the point when a gas pipeline drops to a certain threshold pressure (close to ambient pressure), a gas pipeline will continue to deliver stored gas. Gas can then be reinjected at a later time to account for the drop in pressure. However, to provide for the reliability of gas supply caused by increasingly volatile peak demand may in the future justify expenditure on network upgrades.

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504 ACIL demand forecast report, 18 September 2009, pp. 6–9.

505 ACIL demand forecast report, 18 September 2009, p. 17.

The AER considers that ActewAGL's demand forecasts are arrived at on a reasonable basis and represent a best forecast.[506]

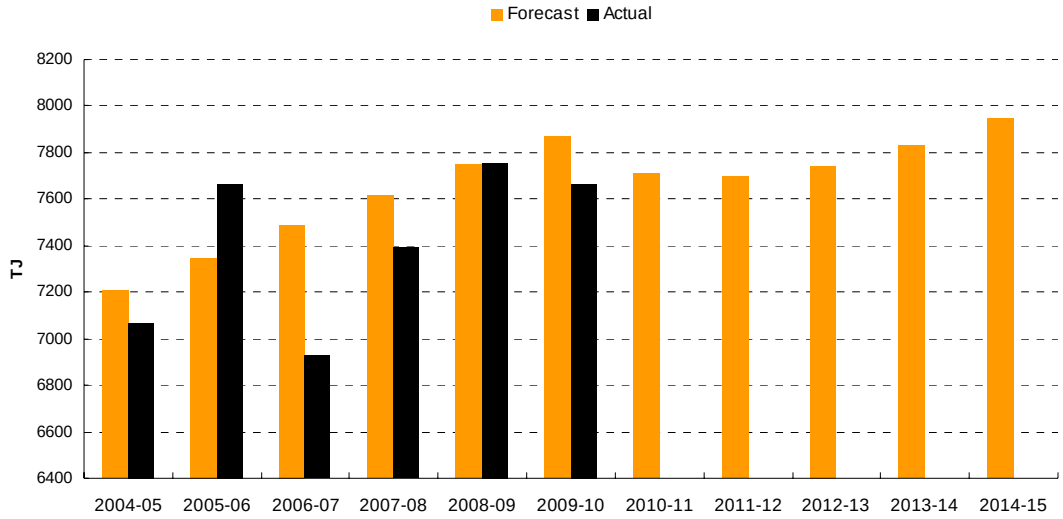
11.5.2 Load forecasts

Forecast average annual growth in demand is lower for the access arrangement period at 0.7 per cent compared with 1.9 per cent for the earlier access arrangement period.

In examining the load forecasts for the access arrangement period, Figure 11.1 compares the earlier access arrangement with the access arrangement period and demonstrates:

- In the earlier access arrangement period forecasts in aggregate matched actual, with individual yearly forecasts reasonable, at within 8 per cent of actual.
- The starting point for the load forecast in 2010–11 is comparable to what is expected to be observed in 2008–09 and 2009–10.
- Demand grew constantly in the earlier access arrangement, and in the access arrangement period is forecast to remain flat from 2010–11 to 2012–13 with growth returning from 2012–13 onward.

Figure 11.1: Actual and forecast demand volumes (TJ)



Source: ActewAGL, *Access arrangement information*, June 2009, pp. 75, 79, 91–92.
Note: 2008–09 and 2009–10 actual values are estimated values.

ActewAGL forecasts are based on a report from the NIEIR. ActewAGL has adjusted the NIEIR forecasts, however, for an increase in demand expected from its gas network marketing campaign. ActewAGL estimates that the effect of this campaign is forecast to increase NIEIR's baseline residential forecast by 18 TJ per annum[507]

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506 NGR, r. 74(2).

507 ActewAGL, *Access arrangement information*, June 2009, p. 90.

cumulatively over the access arrangement period. The ACIL report outlines that this represents around 0.3 per cent of the total load forecast.[508]

The AER considers that ActewAGL's forecasts of the declining growth in annual demand, as confirmed in the ACIL report,[509] are arrived at on a reasonable basis and represent the best forecast in the circumstances, and thus meet the requirements of r. 74(2) of the NGR and no amendment is required.

11.5.3 Minimum, maximum and average demand

While annual growth in average demand is flat, ActewAGL reports that a 'peaky' demand profile is an increasingly important consideration in building and reinforcing networks.[510]

However, the AER considers that ActewAGL's submission that there is 'generally increasing peak demand over the earlier access arrangement period[511] is not reflected in the information provided about demand in the earlier access arrangement period. On the basis of the data provided by ActewAGL for 2005–06 to 2007–08, maximum daily demand is shown to be generally declining. For instance, maximum tariff demand falls from 62.8 to 56.4 TJ per day and maximum total demand falls from 69 to 63 TJ per day.[512] The corresponding fall in daily maximum total demand reflects tariff customers' higher weighting as the major consumers of total load. This confirms that a change to tariff customers' gas usage patterns will be a major driver to an increased variability of peak demand.

In addition, ActewAGL outlines that actual peak load data is not available for all customers and that peak load (or maximum demand) is estimated from annual winter monitoring information and annual usage information. [513]

Based on the information provided, the AER considers that while the methodology to estimate maximum demand may be appropriate, it does not provide support for ActewAGL's submission about how maximum daily demand demonstrates an increasingly 'peaky' demand profile. This may have implications for ActewAGL's submission about forecast capital expenditure.[514]

11.5.4 Customer numbers and demand by tariff class

Average annual customer growth for the earlier access arrangement period is 3.3 per cent, compared to the slower growth of 2.8 per cent per annum forecast for the access arrangement period. Tariff customers (or residential and business customers) comprise around 85 per cent of the total load. The remaining 15 per cent is attributable to contract customers (industrial or large commercial).

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508 ACIL demand forecast report, 18 September 2009, p. 6.

509 ACIL demand forecast report, 18 September 2009, p. 17.

510 ActewAGL, *Access arrangement information*, June 2009, p. 23.

511 ActewAGL, *Access arrangement information*, June 2009, p. 76.

512 ActewAGL, *Access arrangement information*, June 2009, p. 77.

513 ActewAGL, *Access arrangement information*, June 2009, p. 92.

514 ActewAGL, *Access arrangement information*, June 2009, pp. 93, 119.

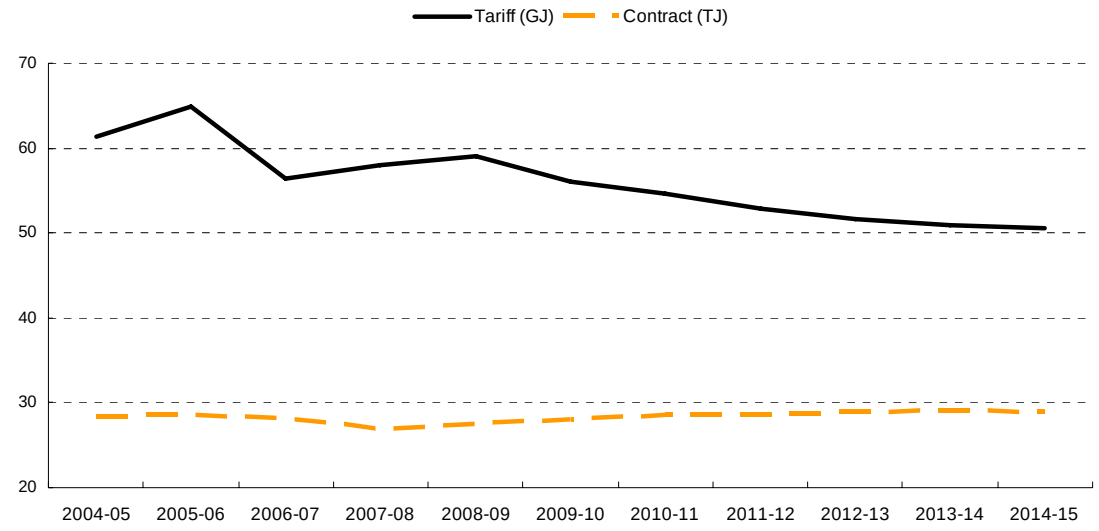
Figure 11.2 shows average annual consumption by customer group – tariff (or low volume) customers (GJ), and contract (large volume) customers (TJ) and demonstrates that:

- Each tariff customer is forecast to use on average around 56 GJ per year in the access arrangement period. The demand per tariff customer is forecast to decrease over the access arrangement period by almost 8 per cent.[515] While not clearly established in the earlier access arrangement period, the declining trend for annual demand per tariff customer is more pronounced over the forecast period.

- Contract customers on average will continue to consume around 30 TJ per year, with no change in demand forecast over the access arrangement period.

The AER considers that ActewAGL's forecasts of a declining trend in annual demand per tariff customer as confirmed in the ACIL report are arrived at on a reasonable basis and represent the best forecast in the circumstances.[516]

Figure 11.2: Actual and forecast annual demand by customer group



Source: ActewAGL, *Access arrangement information*, June 2009, pp. 75, 79, 91–92.

11.5.5 Forecast pipeline capacity and utilisation

The AER acknowledges that a distribution network is a meshed network made up of inter-connected pipes and there are a number of practical considerations governing why the calculation of utilisation is not straightforward, and so therefore may not be practicable. The AER accepts ActewAGL's submission that capacity and utilisation information for a distribution network is not available or meaningful for a distribution

515 As noted earlier, ActewAGL explains this is due to increases in gas appliance efficiencies, switching from gas appliances to reverse cycle air conditioning systems and government policies and initiatives which relate to insulation subsidies, increased penetration of water efficient shower-heads, mandatory renewable energy targets and the CPRS.

516 NGR, r. 74(2).

pipeline. The AER accepts this statement and considers this meets the requirements of r. 72(1)(d) of the NGR.

11.5.6 Summary

With reference to the ACIL report and the AER's own analysis, the AER considers that:

- ActewAGL includes use of the network over the earlier access arrangement period showing minimum, maximum and average demand, and customer number in total and by tariff class.[517]

- ActewAGL provides a statement that a forecast of pipeline capacity and utilisation of pipeline capacity over the access arrangement period is not practicable. The AER accepts this statement.[518]

- ActewAGL provides support for the basis of forecasts or estimates by means of a statement in the form of the NIEIR report which is the basis on which estimates and forecasts were developed, and these demand forecasts and estimates are arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances.[519]

11.6 Conclusion

The AER approves ActewAGL's proposed demand forecasts as they meet the requirements of r. 72(1)(a)(iii), r. 72(1)(d), and r. 74 of the NGR.

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517 NGR, r. 72(1)(a)(iii).

518 NGR, r. 72(1)(d).

519 NGR, r. 74(2).

12 Reference tariffs

12.1 Introduction

This chapter sets out the AER's consideration of ActewAGL's tariff proposal against the distribution pricing requirements in the NGR.

12.2 Regulatory requirements

Rule 48(1)(d)(i) of the NGR provides that a full access arrangement must specify for each reference service the reference tariff.

Rule 72(1)(j) of the NGR provides that the access arrangement information for a full access arrangement must include the proposed approach to the setting of tariffs including:

> (i) the suggested basis of reference tariffs, including the method used to allocate costs and a demonstration of the relationship between costs and tariffs; and
>
> (ii) a description of any pricing principles employed but not otherwise disclosed under this rule;

Rule 93(1) of the NGR provides that total revenue is to be allocated between reference and other services in the ratio in which costs are allocated between reference and other services. Rule 93(2) of the NGR provides that costs are to be allocated between reference and other services as follows:

> (a) costs directly attributable to reference services are to be allocated to those services; and
>
> (b) costs directly attributable to pipeline services that are not reference services are to be allocated to those services; and
>
> (c) other costs are to be allocated between reference and other services on a basis (which must be consistent with the revenue and pricing principles) determined or approved by the AER.

Rule 94(1) of the NGR provides that for the purpose of determining reference tariffs, customers for reference services provided by means of a distribution pipeline must be divided into tariff classes. Rule 94(2) of the NGR provides that a tariff class must be constituted with regard to the need to group customers for reference services together on an economically efficient basis and to avoid unnecessary transaction costs.

Rule 94(3) of the NGR provides that for each tariff class, the revenue expected to be recovered should lie on or between:

> (a) an upper bound representing the stand alone cost of providing the reference service to customers who belong to that class; and
>
> (b) a lower bound representing the avoidable cost of not providing the reference service to those customers.

Rule 94(4) of the NGR provides that a tariff, and if it consists of 2 or more charging parameters, each charging parameter for a tariff class:

(a) must take into account the long run marginal cost for the reference service or, in the case of a charging parameter, for the element of the service to which the charging parameter relates;

(b) must be determined having regard to:

(i) transaction costs associated with the tariff or each charging parameter; and

(ii) whether customers belonging to the relevant tariff class are able or likely to respond to price signals.

If the operation of r. 94(4) of the NGR is that the service provider may not recover the expected revenue, then r. 94(5) of the NGR provides that the tariffs must be adjusted to ensure recovery of expected revenue with minimum distortion to efficient patterns of consumption.

12.3 ActewAGL's proposal

12.3.1 Allocation of total revenue and costs

ActewAGL proposes to allocate the cost of providing reference services to contract and tariff customers using the methodology applied in the earlier access arrangement period.[520] Operating and capital costs are allocated to contract and tariff market segments in line with their respective use of network services.[521]

ActewAGL submits that costs are directly related to the relevant market segment.[522] Costs that are shared between different segments should be allocated using reasonable cost drivers. ActewAGL uses an activity based costing methodology to allocate operating costs between tariff and contract customers. Capital costs are allocated on the relative proportion of each segments' share of the capital base.[523]

The allocation of operating and capital costs is shown in Table 12.1.

520 ActewAGL, *Access arrangement information*, June 2009, p. 230.

521 ActewAGL, *Access arrangement information*, June 2009, p. 230.

522 ActewAGL, *Access arrangement information*, June 2009, p. 230.

523 ActewAGL, *Access arrangement information*, June 2009, p. 231.

Table 12.1: ActewAGL's allocation of operating and capital costs ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15
Tariff	55.2	61.3	70.8	81.9	83.8
Contract	2.8	3.1	3.6	4.1	4.2
Contract – meter provision	0.4	0.4	0.5	0.5	0.6
Contract – meter communication	0.1	0.1	0.1	0.1	0.1
Contract – meter reading	0.0	0.0	0.0	0.1	0.1
Contract – network use	2.3	2.6	2.9	3.4	3.5
Tariff – meter provision	3.5	3.9	4.5	5.2	5.3
Tariff – meter reading	0.6	0.6	0.7	0.8	0.9
Tariff – network use	51.1	56.8	65.5	75.8	77.6

Source: ActewAGL, *Access arrangement information*, June 2009, p. 233.

12.3.2 Tariffs – distribution pipelines

12.3.2.1 Division of customers into tariff classes

ActewAGL groups customers into tariff classes according to the nature and size of their connection and load. As outlined earlier these tariff classes are tariff and contract customers.[524]

Tariff customers have a two–part tariff structure which involves a fixed charge and a throughput charge. ActewAGL states that it proposes to offer six reference services and two non-reference services.[525]

ActewAGL submits that the non-reference services offered by it have not been sought by customers in the earlier access arrangement period and are unlikely to be sought by customers in the access arrangement period.[526]

12.3.2.2 Expected revenue, stand alone cost and avoidable cost

ActewAGL submits that tariff customers account for 99.6 per cent of its customer numbers and 86 per cent of sales revenue. ActewAGL submits that contract customers represent a very small part of its business and are allocated a small share of costs. ActewAGL submits that the stand alone cost for the tariff customer class is very close to the cost of providing the network services, while avoidable costs are those costs which are directly attributable to tariff customers. ActewAGL identifies these

524 ActewAGL, *Access arrangement information*, June 2009, p. 229.

525 ActewAGL, *Access arrangement information*, June 2009, p. 227.

526 ActewAGL, *Access arrangement information*, June 2009, p. 228.

avoidable costs as operating and meter costs that would be avoided if the tariff customers were not supplied.[527]

Table 12.2 shows ActewAGL's proposed expected revenue for tariff and contract customer classes is between avoidable cost and stand alone cost.

Table 12.2: ActewAGL's avoidable and stand alone cost ($m, nominal)

	Avoidable cost	Expected revenue	Stand-alone cost
Tariff	24.39	60.64	62.33
Contract	1.39	3.07	39.33

Source: ActewAGL, *Access arrangement information*, June 2009, p. 234.

12.3.2.3 Ensuring recovery of expected revenue

ActewAGL submits that in present value terms, forecast revenue from reference services over the access arrangement period is equal to the portion of total revenue allocated to reference services for the access arrangement period. This is demonstrated in Tables 12.3–12.8.

Table 12.3: Revenue requirement for capacity reservation service customers ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15	NPV
Contract revenue	2.7	3.0	3.4	4.0	4.0	12.3

Source: ActewAGL, *Access arrangement information*, June 2009, p. 237.

Table 12.4: Proposed revenue stream for capacity reservation service customers ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15	NPV
Contract revenue	3.0	3.1	3.4	3.6	3.8	12.3

Source: ActewAGL, *Access arrangement information*, June 2009, p. 237.

Table 12.5: Revenue requirement for the tariff service customers ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15	NPV
Tariff revenue	54.7	60.7	70.0	81.0	82.9	251.7

Source: ActewAGL, *Access arrangement information*, June 2009, p. 238.

[527] ActewAGL, *Access arrangement information*, June 2009, p. 234.

Table 12.6: Proposed revenue stream for the tariff service customers ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15	NPV
Tariff revenue	60.0	63.9	68.7	74.0	79.9	251.7

Source: ActewAGL, *Access arrangement information*, June 2009, p. 238.

Table 12.7: Revenue requirement for the meter data service ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15	NPV
Meter data revenue	0.7	0.7	0.9	1.0	1.0	3.1

Source: ActewAGL, *Access arrangement information*, June 2009, p. 238.

Table 12.8: Proposed revenue stream for the meter data service ($m, nominal)

	2010–11	2011–12	2012–13	2013–14	2014–15	NPV
Meter data revenue	0.8	0.8	0.8	0.9	0.9	3.1

Source: ActewAGL, *Access arrangement information*, June 2009, p. 238.

12.3.2.4 Other considerations

ActewAGL submits that the indicative long run marginal costs of expanding its pipeline to provide incremental capacity to new customers:[528]

- $1.2 per GJ to supply a government department
- $2.3 per GJ to supply a retail market facility
- $4.6 per GJ to supply two residential developments estimated to supply 341 households.[529]

ActewAGL submits that it takes into account long run marginal cost, transaction costs and price responsiveness when determining reference tariffs.[530] ActewAGL submits that its reference tariffs are set to recover the cost of providing upstream network services and include either long run marginal cost or the incremental cost of a new customer or group of customers.[531]

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528 These costs are excluding metering costs and are based on the amount of GJ required to recover the costs of the capital expenditure over a life of 15 years and applying a rate of interest assumed to be the post-taxation nominal WACC of 11.09 per cent. These costs do not include the cost of providing upstream network which ActewAGL assumes to have the capacity to take the additional load.

529 ActewAGL, *Access arrangement information*, June 2009, p. 235.

530 ActewAGL, *Access arrangement information*, June 2009, p. 235.

531 ActewAGL, *Access arrangement information*, June 2009, p. 235.

12.4 AER's analysis and considerations

ActewAGL's proposed tariff structure results in nominal tariffs increasing more than 75 per cent between 2009–10 to 2014–15.[532]

12.4.1 Allocation of total revenue and costs

ActewAGL outlines that it continues to offer non-reference services. However, it submits that non-reference services have not been used by customers in the past and are unlikely to be used in the future.[533] As there are no non reference services forecast to be provided by ActewAGL in the access arrangement period, the allocation between reference and non-reference services set out in r. 93 of the NGR does not apply.

12.4.2 Division of customers into tariff classes

ActewAGL classifies customers into two tariff classes, tariff customers and contract customers. The AER considers that ActewAGL has satisfied r. 94(1) of the NGR, which requires customers for reference services to be divided into tariff classes. The tariffs classes for contract and tariff customers are broadly consistent with ActewAGL's earlier access arrangement. ActewAGL outlines that this grouping of customers during the access arrangement period is based on the nature and size of the connection and load.[534]

The AER considers ActewAGL has grouped customers for reference services together on an economically efficient basis.[535] ActewAGL submits that in doing so the tariff class for metering costs has been constituted to avoid unnecessary transaction costs.[536] ActewAGL does not outline whether this is the case for the other reference services. That said, the AER considers that that tariff classes are appropriately constituted.

12.4.3 Comparison of stand alone and avoidable cost

ActewAGL allocates revenue expected to be recovered on the basis of costs directly attributed to the relevant tariff class and in doing so recovers expected revenue between stand alone and avoidable costs[537]. Specifically, marketing and contestability charges are allocated to the 'tariff (low volume)' class.[538] Shared costs are allocated to either the contract or tariff market classes on the basis of allocation keys as outlined below.[539]

The allocation method for operating cost categories include:

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532 Excluding tariff delivery points fixed charges which increased by just over 10 per cent in that period. Real 2009–10 dollar tariffs for the period 2010–11 to 2014–15 are obtained from: ActewAGL, *Access arrangement,* June 2009, p. 59–94. The real tariffs for the 2010 –15 period are converted to nominal terms using ActewAGL's forecasted inflation of 2.09 per cent.

533 ActewAGL, *Access arrangement information,* June 2009, p. 228.

534 ActewAGL, *Access arrangement information*, June 2009, p. 229.

535 NGR, r. 94(2)(a).

536 ActewAGL, *Access arrangement information*, June 2009, pp. 228–229.

537 NGR, r. 94(3).

538 ActewAGL, *Access arrangement information,* June 2009, Table 11.1, p. 231.

539 ActewAGL, *Access arrangement information,* June 2009, p. 230.

- relative size of MDQs[540]
- customer numbers
- new customer connections
- actual revenue split in 2007–08.[541]

ActewAGL has provided statements and values for stand alone and avoidable costs, however, how these values are derived is not explained or demonstrated. The AER considers that the range of costs is large and ActewAGL demonstrates that the revenue expected to be recovered for both tariff classes is between its measures of stand alone and avoidable costs.[542]

12.4.4 Charging parameters

The NGR requires that both a tariff and each charging parameter must take into consideration long run marginal cost and must be determined having regard to transaction costs that are associated with the tariff or each charging parameter.[543] Further, the tariff and charging parameter must be determined having regard to whether customers belonging to the relevant tariff class are able or likely to respond to price signals.[544] Given that ActewAGL has a tariff structure that consists of more than one charging parameter, both r. 94(4)(a) and r. 94(4)(b) of the NGR must be taken into account for each tariff and charging parameter.

ActewAGL states it has taken into consideration long run marginal costs for each tariff proposed.[545]

ActewAGL outlines that the relevant transaction costs it has considered in determining tariffs include the costs of more sophisticated metering, the costs of more complex billing and the costs to customers of understanding, and responding to, a more complicated tariff structure.[546]

ActewAGL proposes a step charging parameter structure for throughput charge where the cost per GJ is set for a block size of volumes, where the cost for each successive block size between 1.25 GJ per annum and 75 GJ per annum decreases as volumes increase. Although ActewAGL proposes six different charging parameters (or steps) for throughput charges,[547] the three block sizes between 1.25 GJ per month and 75GJ per month have identical prices. The AER considers that this has the effect of

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540 Asset management costs, non system asset charge and other direct costs are split according to MDQ.

541 Corporate overheads, government levies and UNFT, UAG and other operating expenditure are split according to actual revenue split.

542 ActewAGL, *Access arrangement information,* June 2009, p. 234.

543 NGR, r. 94(4).

544 NGR, r. 94(4)(b).

545 ActewAGL, *Access arrangement information,* June 2009, p. 235.

546 ActewAGL, *Access arrangement information*, June 2009, p. 236.

547 Steps are titled as follows (GJ per month): 'First 1.25', 'Next 1.5', 'Next 5.75', 'Next 75', 'Next 333.5', 'All additional'. ActewAGL, *Access arrangement proposal*, June 2009, p. 85.

collapsing the tariff structure into four block sizes rather than six block sizes.[548] While this is consistent with r. 94(4)(b)(i) of the NGR, the AER considers that transaction costs will be reduced by considering the identically priced steps as a single step. This will have the effect of providing customers with a more transparent tariff structure increasing the ability and likelihood of customers to respond to price signals.[549]

The AER considers ActewAGL must amend the tariff structure so that identical priced steps in the tariff schedule are considered as one pricing step in the tariff schedule as outlined amendment 13.1.

12.4.5 Ensuring recovery of expected revenue

ActewAGL has proposed that it does not need to adjust tariffs under r. 94(5) of the NGR to recover expected revenue since expected revenue is recovered.

12.4.6 Other matters – reference tariff policy

The AER notes that ActewAGL includes a reference tariff policy section in its access arrangement proposal which outlines the principles on which reference tariffs have been determined.[550]

The proposed reference tariff policy is not required under the NGR and the AER considers that the principles reflected in that policy should reflect the relevant rules. The AER considers that the principles should reflect that the reference tariffs are determined under r. 94 of the NGR and varied in accordance with a mechanism so that the net present value of forecast revenue from reference services and the portion of total revenue allocated to reference services is equal over the access arrangement period.[551]

The AER does not necessarily consider that the inclusion of the allocation of revenue pools for each market segment in the reference tariff policy of the access arrangement proposal is consistent with r. 94 of the NGR. This is because r. 94 of the NGR requires ActewAGL to determine the costs allocated to reference services, which may or may not be consistent with capital cost being a fully distributed optimised replacement cost values and operating costs being allocated using activity based costing principles. ActewAGL has not demonstrated whether the cost allocation requirements for tariff classes or market segments under r. 94 of the NGR and those applied to capital and operating costs in the reference tariff policy principles in clause 4.4 of the access arrangement proposal are consistent.

For these reasons the AER considers, as outlined in amendment 12.1, that ActewAGL is required to amend clause 4.1 and 4.4 of its access arrangement proposal to reflect that reference tariffs are determined under r. 94 of the NGR and varied using a mechanism in accordance with r. 92 of the NGR.

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548 ActewAGL, *Access arrangement proposal*, June 2009, p. 85.

549 NGR, r. 94(4)(b)(ii).

550 ActewAGL, *Access arrangement proposal*, June 2009, p. 18.

551 NGR, r. 92(2).

12.5 Conclusion

The AER considers that ActewAGL complies with r. 93 of the NGR but it does not comply with r. 94 of the NGR and requires ActewAGL to make the amendment set out below and amendment 13.1.

12.6 Amendments required to the access arrangement proposal

Before the access arrangement proposal can be approved, ActewAGL must make the following amendments:

Amendment 12.1: delete clauses 4.1 and 4.4 of the access arrangement and replace them with the following:

> 4.1 Reference tariffs have been determined in accordance with rule 94 of the National Gas Rules and varied using a tariff variation mechanism that is consistent with rule 92(2) of the National Gas Rules.
>
> 4.4 The expected revenue for each market segment is determined on the basis of rule 94 of the National Gas Rules.

13 Tariff variation mechanism

13.1 Introduction

This chapter sets out the AER's consideration of ActewAGL's tariff variation mechanism. ActewAGL has nominated two tariff variation mechanisms: an annual tariff variation formula mechanism and a cost pass through mechanism. Under the NGR a cost pass through is a tariff variation mechanism. Unlike under the Code and the National Electricity Rules, the NGR does not prescribe any procedures for approval and assessment for the tariff variation mechanism. These are instead proposed by the service provider.

13.2 Regulatory requirements

Rule 72(1)(k) of the NGR provides that the access arrangement information for a full access arrangement proposal must include the service provider's rationale for any proposed reference tariff variation mechanism.

Rule 92(1) of the NGR provides that a full access arrangement must include a mechanism for variation of a reference tariff over the course of an access arrangement period. Rule 92(2) of the NGR provides that the reference tariff variation mechanism must be designed to equalise in present value terms forecast revenue from reference services over the access arrangement period and the portion of total revenue allocated to reference services for the access arrangement period.

Rule 97(1) of the NGR provides that a reference tariff variation mechanism may provide for variation of a reference tariff:

> (a) in accordance with a schedule of fixed tariffs; or
>
> (b) in accordance with a formula set out in the access arrangement; or
>
> (c) as a result of a cost pass through for a defined event (such as a cost pass through for a particular tax); or
>
> (d) by a combined operation of 2 or more or [sic] the above.

Rule 97(2) of the NGR provides that a formula for variation of a reference tariff may (for example) provide for:

> (a) variable caps on the revenue to be derived from a particular combination of reference services; or
>
> (b) tariff basket price control; or
>
> (c) revenue yield control; or
>
> (d) a combination of all or any of the above.

In deciding whether a particular reference tariff variation mechanism is appropriate to a particular access arrangement, the AER must have regard to the factors in r. 97(3) of the NGR:

> (a) the need for efficient tariff structures; and

(b) the possible effects of the reference tariff variation mechanism on administrative costs of the AER, the service provider, and users or potential users; and

(c) the regulatory arrangements (if any) applicable to the relevant reference services before the commencement of the proposed reference tariff variation mechanism; and

(d) the desirability of consistency between regulatory arrangements for similar services (both within and beyond the relevant jurisdiction); and

(e) any other relevant factor.

Rule 97(4) of the NGR provides that a reference tariff variation mechanism must give the AER adequate oversight or powers of approval over variation of the reference tariff.

13.3 ActewAGL's proposal

ActewAGL proposes two reference tariff variation mechanisms as part of its access arrangement proposal:

- An annual tariff variation formula mechanism through which capacity and throughput tariffs will vary in accordance with the formula:

$$P_t = P_t^* (1 + CPI_t)(1 + A_t)$$

where:

P_t is the varied reference tariff in year t;

P_t^* is the unadjusted and published reference tariff;

CPI_t the CPI in year t relative to the base year prices;

A_t is the adjustment Factor in year t; and

t is the financial year for which reference tariff are being set.[552]

- A cost pass through mechanism.[553]

13.3.1 Annual tariff variation formula mechanism

ActewAGL's proposes to amend the annual tariff variation mechanism in the earlier access arrangement period. In addition to the adjustment for changes in CPI[554] in the earlier access arrangement period, ActewAGL proposes an adjustment factor to also adjust for the difference between forecast and actual costs for the Australian Energy

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552 ActewAGL, *Access arrangement information*, June 2009, p. 241.

553 ActewAGL, *Access arrangement information*, June 2009, p. 239.

554 The current access arrangement only escalates tariffs annually by the change in CPI.

Market Operator (AEMO) fee, the Utilities Network Facilities Tax (UNFT) and the Energy Industry Levy (EIL).

It is also proposing to adjust tariffs annually for unaccounted for gas (UAG) costs i.e. the difference between the efficient tender market price per GJ and forecast gas price per GJ for each actual network gas receipts in a given year.[555]

The actual proposed tariff in a particular year of the access arrangement is the applicable real 2009–2010 tariff from the tariff schedule escalated in accordance with the tariff formula mechanism.[556]

ActewAGL submits that if the AER does not approve these additional parameters in the tariff formula mechanism, it seeks to have these differences in forecast and actual costs for UAG, AEMO, UNFT and EIL considered as a cost pass through (taxation) event without a materiality cost.[557]

13.3.1.1 Oversight procedures for the annual tariff variation formula mechanism

ActewAGL proposes that the tariffs approved by the AER using the tariff variation adjustment formula mechanism come into effect on 1 July each year of the access arrangement period. ActewAGL submits it will notify the AER 50 business days prior to 1 July each year and the AER is required to respond within 30 business days of receipt of the application. It further submits that in the event that the AER fails to notify ActewAGL within 30 business days, the tariff proposed by ActewAGL will be deemed to be approved by the AER.[558]

13.3.2 Cost pass through tariff variation mechanism

13.3.2.1 Cost pass through tariff variation mechanism events

ActewAGL proposes the following cost pass through events:

- Change in tax: this covers any changes to the taxation paid by ActewAGL. Certain exceptions apply, such as taxes included in the annual reference tariff variation formula mechanism are excluded.[559]
- Service standard: this relates to any incurred costs associated with a change in laws or regulations for service standards, including those imposed by the AER.[560]
- Regulatory change: this relates to certain costs associated with changes in a regulatory obligation or requirement.[561]

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555 ActewAGL, *Access arrangement information*, June 2009, p. 239.

556 ActewAGL, *Access arrangement proposal*, June 2009, p. 25.

557 ActewAGL, *Access arrangement information*, June 2009, pp. 248, 257.

558 ActewAGL, *Access arrangement proposal*, June 2009, p. 30–32.

559 ActewAGL, *Access arrangement information*, June 2009, p. 245.

560 ActewAGL, *Access arrangement information*, June 2009, p. 245.

561 ActewAGL, *Access arrangement information*, June 2009, p. 245.

- CPRS: this relates to the incurred costs associated with any legal obligation arising from the introduction or operation of the CPRS.[562]

- National Energy Customer Framework or National Energy Connection Framework: this relates to the incurred costs associated with the legal obligations imposed by the introduction of these frameworks.[563]

- Short Term Trading Market (STTM): this relates to the costs incurred by ActewAGL as a result of obligations arising from the operation of the STTM.[564]

- General nominated pass through: this covers uncontrollable and unforeseeable events which have a material impact on ActewAGL's costs and do not fall within any other category of cost pass through events.[565]

ActewAGL also proposes that the cost differences be considered as part of the cost pass through mechanism.[566] Differences between actual and forecast costs for UAG, AEMO, UNFT and EIL: this covers the event that the AER does not approve the annual tariff variation formula to account for actual and forecast variations of these costs.

13.3.2.2 Administrative threshold

ActewAGL proposes a materiality threshold of $0.5 million ($2009–10) for pass through events made outside the annual tariff variation.[567]

13.3.2.3 Oversight procedures cost pass through tariff variation mechanism

ActewAGL proposes a procedure for the oversight of the cost pass through tariff variation mechanism that is significantly similar to that outlined for the annual tariff variation formula mechanism.[568] Under the cost pass through tariff variation mechanism ActewAGL may notify the AER at any time that it is seeking to vary its reference tariffs because a cost pass through event has occurred and that ActewAGL is seeking to vary its reference tariffs. The proposed cost pass through tariff variation is then subject to the AER's consent.[569]

The annual tariff formula variation notification procedure permits for the reconciliation of actual and forecast costs for UAG, AEMO, UNFT and EIL.[570]

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562 ActewAGL, *Access arrangement information*, June 2009, p. 245.

563 ActewAGL, *Access arrangement information*, June 2009, p. 245.

564 ActewAGL, *Access arrangement information*, June 2009, p. 246.

565 ActewAGL, *Access arrangement information*, June 2009, p. 246.

566 ActewAGL, *Access arrangement information*, June 2009, p. 240.

567 ActewAGL, *Access arrangement information*, June 2009, pp. 256–257.

568 ActewAGL, *Access arrangement proposal*, June 2009, pp. 30–32.

569 ActewAGL, *Access arrangement proposal*, June 2009, p. 31.

570 ActewAGL, *Access arrangement proposal*, June 2009, pp. 30–32.

13.4 AER's analysis and considerations

13.4.1 Annual tariff variation formula mechanism

13.4.1.1 Equalisation of revenue

The purpose of the annual tariff variation mechanism over the access arrangement period is to equalise in present value terms the forecast revenue from reference services and the portion of total revenue allocated to reference services.[571]

The AER considers that ActewAGL's access arrangement proposal complies with r. 92(2) of the NGR. However, forecast revenue from reference services must be amended as set out in amendment 13.1 to reflect the changes to the forecast total revenue component[572] in the access arrangement period which is outlined in the total revenue chapter of the draft decision. The new tariff schedule is adjusted on the basis that every tariff within a category[573] is adjusted by a given percentage so that for each category in present value terms the total revenue allocated to reference services is equal to the new forecast revenue over the access arrangement period.

As outlined in the pipeline services chapter, the AER considers that ancillary services are reference services. As a consequence, a proportion of total revenue allocated to reference services needs to be allocated to ancillary services. Amendment 13.1 reflects the reallocation of building block revenue to ancillary services based on forecast demand[574] for ancillary services over the access arrangement period relative to forecast demand for other reference services.

13.4.1.2 Appropriateness of the annual tariff variation formula mechanism

The annual tariff variation mechanism proposes an adjustment for actual costs if they are higher than forecast costs proposed at the commencement of the access arrangement period. This is significantly different to the tariff adjustment mechanism contained in ActewAGL's current access arrangement.[575] This is limited to a CPI adjustment.[576]

The AER outlines below its reasons for not accepting the proposed annual tariff variation mechanism.

Taxation (UNFT), regulatory and UAG costs that are to be adjusted in the annual tariff variation formula are also included in forecast operating expenditure.[577] The purpose of the annual tariff variation mechanism is to adjust for the actual costs, where these costs are higher than the approved forecast costs. In this way, the

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571 NGR, r. 92(2).

572 NGR, r. 76.

573 Meter provisions, meter reading and network charges.

574 ActewAGL, *Email to AER*, 30 October 2009, attachment: *Ancillary services forecast 30102009* (confidential).

575 The access arrangement for the period 1 January 2005 to 30 June 2010.

576 ActewAGL, *Access arrangement proposal*, November 2004, p. 36.

577 ActewAGL, *Access arrangement information*, June 2009, p. 180.

proposed annual tariff variation mechanism adjusts forecast costs for actual costs incurred.

However, the AER considers that the tariff variation mechanism is not intended as a true-up mechanism to adjust for differences in forecast and actual costs for a select number of uncontrollable costs but a means of equalising in net present value terms the expected revenue and total (forecast) revenue at the commencement of the access arrangement period.[578]

In addition, the margin for forecasting errors for these costs should be minimal. Except for possibly the UNFT, these costs are likely to be relatively stable over the access arrangement period. Therefore the expected adjustments for differences between actual and forecast operating expenditure costs will be relatively small when compared to the administrative costs imposed on users, the AER and the service provider.[579] The AER considers that more appropriate methods exist to adjust for the difference between actual and forecast costs than currently proposed in the annual adjustment factor. One of these methods, which also takes into consideration the administrative costs of ActewAGL, users, prospective users and the AER is a cost pass through tariff variation mechanism. This matter is considered in more detail below in section 13.4.2.2.

Further, ActewAGL's tariff variation mechanism proposes that any costs in the adjustment factor are adjusted for by the weighted average cost of capital to take account of the time value of money.[580] This means a cost of capital adjustment is embedded in the annual tariff variation mechanism. Costs such as UAG, taxes and regulatory costs are not relevant capital costs to be adjusted using a weighted average cost of capital approach under the NGR.

As outlined earlier in this section, ActewAGL submits that the proposed annual tariff variation mechanism only adjusts actual costs which are higher than approved costs.[581] The AER does not consider that the proposed asymmetric adjustment mechanism applied by ActewAGL is consistent with the purpose of determining efficient tariffs.[582] The AER requires an amendment to reflect changes in the CPI, which can account for general price increases and decreases as outlined in amendment 13.11.

Further, to support the adjustment for UAG, ActewAGL cites Jemena's access arrangement for the NSW gas distribution network.[583] ActewAGL submits that this access arrangement currently includes an annual tariff variation adjustment for UAG.[584]However, this adjustment is unique to Jemena's access arrangement and is not consistent with most other regulatory arrangements for similar services.[585] The AER

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578 NGR, r. 92(2).

579 NGR, r. 97(3)(b).

580 ActewAGL, *Access arrangement information,* June 2009, p. 242.

581 ActewAGL, *Access arrangement proposal,* June 2009, p. 35.

582 NGR, r. 97(3)(a).

583 ActewAGL, *Access arrangement information,* June 2009, p. 241.

584 ActewAGL, *Access arrangement information,* June 2009, p. 241.

585 NGR, r. 97(3)(d).

notes that to support the annual UAG adjustments, Jemena is required to provide an independent auditor's report to verify certain information before the adjustment is approved.[586] Some verification of information is required to support any adjustment mechanism for which information is not readily discernable and not publicly available. The proposed annual adjustment mechanism also imposes additional administrative costs on the AER, through an increase in processing time because of the need to verify additional inputs and to ensure that adjustments are undertaken.[587]

In relation to other administrative costs,[588] the proposed annual tariff variation mechanism is overly complex, relative to any gains in efficiency that may be delivered by the proposed tariff structure and is likely to reduce the transparency for users about the causation of the tariff increase from year–to–year. The consequence of this more complicated formula will likely increase the administrative costs of users. The proposed annual tariff variation mechanism also imposes administrative costs on ActewAGL to substantiate the costs it is seeking to adjust annually.

In conclusion, any benefits likely to arise from a more efficient tariff structure are likely to be outweighed by higher administrative costs.[589] As a consequence the AER requires the annual tariff variation mechanism to be amended as outlined in amendment 13.2 to:

- remove the adjustments for actual costs for UAG, regulatory and UNFT costs
- remove the weighted average cost of capital adjustment
- include a symmetrical CPI adjustment.

13.4.1.3 Minor technical specification matters

In addition to the matters outlined above, there are a number of minor technical matters that require amendment. These are outlined below.

The AER has reviewed the proposed CPI formula and considers that it contains a clerical mistake. The CPI formula proposed by ActewAGL is:[590]

$$CPI_{t} = \left(\frac{CPI_{\text{MAR t-2}} + CPI_{\text{JUN t-2}} + CPI_{\text{SEP t-1}} + CPI_{\text{DEC t-1}}}{CPI_{\text{MAR 2008}} + CPI_{\text{JUN 2008}} + CPI_{\text{SEP 2008}} + CPI_{\text{DEC 2008}}} \right)$$

The CPI formula should be reformulated so that the subscripts for CPI reflect the availability of CPI inputs at the time the annual tariff variation process is undertaken. The CPI formula should be amended as outlined in amendment 13.3 so that the CPI subscripts for the numerator change from SEP_{t-1} and DEC_{t-1} to SEP_{t-2} and DEC_{t-2}. This is because the tariffs for year t (where t is the end of the tariff year) are assessed in year 't-1' and therefore the latest entire year CPI data available is in year 't-2'.

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586 Jemena, *Jemena access arrangement*, 7 March 2007, p. 72.

587 NGR, r. 97(3)(b).

588 NGR, r. 97(3)(b).

589 NGR, r. 97(3)(b).

590 ActewAGL, *Access arrangement information,* June 2009, p. 241.

Further, the AER considers 't' subscript needs to be amended to define 't' as the year ended 30 June each year of the access arrangement as outlined in amendment 13.4.

ActewAGL's proposed tariff schedule is expressed in 2009–10 dollars and a CPI base year of 2008 not 2009. This means that a tariff variation is required on 1 July 2010 rather than to adjust the reference tariff for July 2011.

The AER does not consider that a tariff variation mechanism which requires tariffs to be varied on the first day of the access arrangement period i.e. on 1 July 2010 is practical and would result in unnecessary administrative costs.[591] The annual tariff variation mechanism needs to be amended as outlined in amendment 13.1 so that the first annual tariff variation is made for the year commencing 1 July 2011. As a consequence the service schedule in attachment 3 must be amended to be indexed in real 2010–2011 dollars and quote tariffs for the 1 July 2010 to 30 June 2015 period only (amendment 13.1). Further, this also requires an amendment to the tariff variation formula so that the subscripts for CPI in the denominator are 2009 and not 2008 as outlined in amendment 13.3.

Further, in order for the tariff variation mechanism to be computed consistently each year, the AER considers it appropriate for ActewAGL to amend its access arrangement as outlined in amendment 13.5 to specify a rounding convention. For example ActewAGL could propose that rounding will take place at the last computational step and tariffs will be rounded to the nearest cent.[592] Alternatively, rounding can take place at every computational step[593] and tariffs can be rounded to a certain amount of significant figures.

13.4.1.4 Oversight procedures annual tariff variation formula mechanism

ActewAGL proposes certain oversight or powers of approval, these are discussed below.[594]

The AER considers that 30 business days to approve a tariff variation is appropriate and broadly consistent with the national third party access code for natural gas pipeline system (Code).[595] However, this is a short period of time for the AER to approve a tariff variation if an application is incomplete or information in it is not substantiated. As a result, the AER considers the access arrangement must be amended as outlined in amendment 13.6 to include a requirement to extend the decision making time period for approval when the AER requests further information from ActewAGL. The amendment is similar to the arrangements to extend the decision making time under the Code.[596]

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591 NGR, r. 97(3)(b).

592 If tariffs are very small rounding to the nearest cent may be inappropriate. For instance a five cent tariff rounded to the nearest cent would require a minimum ten per cent increase in a year in order for the tariff to increase to six cents. With a simple inflation adjustment a ten per cent increase may never occur throughout the access arrangement causing the tariff to remain constant in nominal terms throughout the access arrangement.

593 Every computational step would have to be explained in this situation.

594 NGR, r. 97(4).

595 Code, annex D, section 8.3D (b)(ii).

596 Code, annex D, section 8.3D (b)(ii).

Further, the AER considers that ActewAGL should provide its workings, demonstrating how the proposed tariffs have been calculated in accordance with the tariff variation formula mechanism. This will allow the AER to more easily assess whether the tariff variation mechanism has been applied correctly and to facilitate the efficiency of the approval process. It will also assist in mitigating the AER in seeking further information from ActewAGL as outlined in amendment 13.7.

The AER notes that in clause 6.2 of the access arrangement ActewAGL states that a tariff variation by a means of an annual scheduled reference tariff adjustment formula mechanism applies automatically each year.[597] The AER considers that an automatic tariff adjustment is inappropriate as this does not provide the AER with any oversight or powers of approval[598] for the annual tariff variation and needs to be amended as outlined in amendment 13.8.

The AER notes and considers it appropriate that ActewAGL's proposal represents tariffs as GST exclusive. As a consequence amendment 13.1 requires the tariffs to be GST exclusive.

For the reasons outlined in this section, ActewAGL must amend its proposal to provide the AER with adequate oversight or powers of approval over the variation of the reference tariff.[599]

13.4.2 Tariff variation mechanism for cost pass through

13.4.2.1 Proposed defined events

ActewAGL proposes the following cost pass through events: change in tax event, service standard event, regulatory change event, carbon pollution reduction scheme event, NECF and NGFC event, STTM event and a general pass through event.

The AER notes that the proposal for a general pass through event is consistent with regulatory arrangements in ActewAGL's electricity determination.[600]

In relation to the proposed STTM event proposed the AER considers that there is sufficient doubt about the proposed relevance of the STTM event to the ACT, Palerang and Queanbeyan distribution networks for it to be considered as a pass through event. The AER understands that only Sydney and Adelaide are proposed as the trading hubs under the STTM for the foreseeable future.[601] In addition, the AER notes that ActewAGL has already sought specific forecast operating costs in relation to the STTM to account for the impacts on its own operation. These are proposed in the form of step change in costs associated with the introduction of the STTM

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597 ActewAGL, *Access arrangement proposal*, June 2009, p. 27.

598 NGR, r. 97(4).

599 NGR, r. 97(4).

600 AER, *Final decision: Australian Capital Territory distribution determination 2009–10 to 2013–14,* April 2009, pp. 128–129.

601 National Gas (Short-term trading market) Amendment Rules 2009, Exposure draft, 21 July 2009, pp. 16, 24–25, viewed 18 September 2009, <http://www.ret.gov.au/Documents/mce/_documents/2009%20Bulletins/National%20Gas%20(Short%20Term%20Trading%20Market)%20Amendment%20Rules.pdf>.

outlined in attachment N of the access arrangement.[602] Therefore the AER considers that it is sufficiently unforeseeable for the ACT, Palerang and Queanbeyan distribution network to become part of the trading hub. As a consequence the AER considers the definition of the STTM must be amended as outlined in amendment 13.9 for costs associated with the ActewAGL network becoming part of the trading hub. However, other costs ancillary to the introduction of the STTM can be considered the relevant costs for the STTM event.

The AER considers that the proposed events are consistent with a mechanism that is a cost pass through mechanism for a defined event under r. 97(1) of the NGR. Further, the general cost pass through event provides for additional events to be accommodated during the access arrangement period if they are consistent with the NGR. For example, certain events not accepted as self insurance events, may be considered under the general pass through event.

13.4.2.2 Amendment for an additional cost pass through event

ActewAGL proposes that the difference between actual and forecast costs for the AEMO fee, UNFT, EIL fees and UAG are considered as part of the annual tariff variation cycle. ActewAGL also proposes that if the AER does not accept this submission that it would like the difference in costs to be are considered as cost pass through events.[603]

For the reasons provided in section 13.4.1.2., the AER does not accept that these costs should be considered as part of the annual tariff variation formula mechanism but should be considered as defined events for the cost pass through mechanism.

The AER considers that the differences in forecasts and incurred costs for AEMO fees, UNFT, UAG costs and EIL fees as well as other tax change events (which is categorised as a separate cost pass through event) are appropriate for classification as low administrative cost events. This is because the administrative costs for ActewAGL will be very low if it can to provide verifiable and independently sourced documentation (such as an invoice) with its cost pass through application. In most cases the efficient cost of these events can be supported by an invoice or fee statement to demonstrate the financial impact of the event and do not require assessment or impose administrative costs on the AER. The administrative costs for users and prospective users will also be low, as the AER can approve cost pass through events of this nature without the requirement to consult with users and prospective users. The proposed costs to be passed through for low administrative cost events will need to outweigh the administrative costs for users, ActewAGL, and the AER. While this may be low, the AER considers that it is not zero dollars.

As a consequence, the AER requires ActewAGL to amend its access arrangement and access arrangement information as outlined in amendment 13.10 to include low administrative cost events as defined events in the cost pass through mechanism. This amendment also provides for consequential changes to the definitions for the cost pass

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602 ActewAGL, *Access arrangement information*, June 2009, p. 167.

603 ActewAGL, *Access arrangement information*, June 2009, pp. 240, 248, 257.

through mechanism and the annual tariff variation formula mechanism for the tax change and other low administrative cost events.

13.4.2.3 Materiality threshold

A key feature of the ActewAGL proposed cost pass through mechanism is the definition of the materiality threshold. ActewAGL proposes an administrative cost threshold for cost pass through events of at least $0.5 million ($2009–10) for each event above the costs approved in the access arrangement. ActewAGL outlines that this threshold is consistent with its access arrangement in the earlier access arrangement period.[604]

While arrangements in the earlier access arrangement are a relevant consideration under r. 97(3)(c) of the NGR, the proposed threshold for ActewAGL in the earlier access arrangement period has not been updated to reflect the different scale of operations (and revenue) proposed for the access arrangement period. The AER considers that a cost pass through administrative threshold which reflects the total revenue approved in the year (such as a percentage of that revenue) in which the cost is incurred has several advantages. This is because this approach is consistent with administrative thresholds for similar services within and beyond the jurisdiction[605] as determined in the ACT electricity determination relevant to ActewAGL's electricity operation.[606]

Taking into consideration other relevant factors[607] the AER also considers that the proposed material threshold for the cost pass through has not been revised to reflect the larger scale of ActewAGL's operations over time (which are proposed to be significantly larger in the access arrangement period than the earlier access arrangement period). Whereas an administrative threshold which is based on a percentage of total revenue approved reflects the scale of the service provider's operations over the access arrangement period. Therefore the AER considers that ActewAGL's material threshold for cost pass through events should be amended as outlined in amendment 13.11.

Similarly, in order to maintain consistency with administrative thresholds for similar services within and beyond the jurisdiction, the AER considers that a lower threshold should apply for taxation events, in addition to the regulatory and UAG costs. This is because the efficient costs for these events can be readily verified by information from the relevant taxing or regulatory authority. This is of course contingent on this information being provided at the time of assessment of these cost pass through event. As a result, the AER considers that the administrative costs for taxation change events for ActewAGL, users and the AER are much lower for these types of events than the other cost pass through events proposed and a lower threshold should apply as

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604 ActewAGL, *Access arrangement information*, June 2009, p. 257.

605 NGR, r. 97 (3)(d).

606 AER, *Final decision: New South Wales distribution determination 2009–10 to 2013–14*, April 2009, pp. 267–297.

607 NGR, r. 97(3)(e).

outlined. This is desirable for consistency with regulatory arrangements for similar services within and beyond the jurisdiction.[608]

As a consequence, ActewAGL must amend its access arrangement proposal to change the materiality threshold as outlined in amendment 13.11.

13.4.2.4 Other matters

There are three other matters the AER considers require amendment in the cost pass through mechanism. These are outlined below.

The proposed defined events for service standard, CPRS, NECF, NGCF or STTM are not defined to account for cost increases and decreases i.e. provides for a symmetrical mechanism. The AER considers that even though it is unlikely that in the access arrangement period the proposed events will result in cost decreases, an amendment is required to state that all pass through events will allow tariffs to either increase or decrease as also outlined in amendment 13.11. This is required to ensure that tariffs are efficient leading to an efficient tariff structure.[609]

This amendment also includes some consequential changes to the definition of some events in the access arrangement information. The definitions in the access arrangement information for the proposed events inconsistently include the word 'material' for some cost pass through events and not others such as the carbon pollution reduction scheme, the STTM and the NECF or NGCF. [610] The AER considers that the materiality threshold definition in 6.20 of the access arrangement proposal outlines what threshold applies for each event. Therefore the word 'material' needs to be removed from these definitions to prevent confusion.[611]

As a minor issue, ActewAGL's proposal does not clearly outline whether the proposed materiality threshold applies to one or more simultaneous events. The AER considers that the access arrangement proposal needs to make clear that the administrative threshold needs to be met for each separate event.[612] Therefore, the access arrangement proposal needs to be amended as set out amendment 13.12.

Further, ActewAGL proposes factors in clause 6.16 of the access arrangement information which the AER must take into consideration when assessing a defined event for the cost pass thorough event.[613] The AER considers that the proposed factors of assessment go beyond the matters the AER must have regard to under the NGR in determining whether a cost is appropriate to be passed through.

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608 NGR, r. 97(3)(d).

609 NGR, r. 97(3)(a).

610 ActewAGL, *Access arrangement information,* June 2009, pp. 245–246.

611 ActewAGL, *Access arrangement information,* June 2009, pp. 245–246.

612 NGR, r. 97(3)(e).

613 ActewAGL, *Access arrangement proposal,* June 2009, pp. 32–33.

The AER considers that clause 6 of the access arrangement proposal needs to be amended as outlined in amendment 13.13[614] to reflect the following factors for assessment consistent with the NGR:

- that the costs have been funded by alternative means such as self insurance, external insurance or some other third party compensation
- that the costs are relevant to the delivery of pipeline services
- that the costs are building block components for determining total revenue and the determination of reference tariffs under the NGR
- that the costs meet the relevant criteria for the different building block components in determining total revenue.

And further, ActewAGL's access arrangement proposal needs to include a requirement that the cost of any pass through events are net of any payments made by an insurer or third party which partially or wholly offsets the financial impact of that event. This is to ensure that only the net financial impact of an event is considered for a pass through event, as the financial impact of some event like insurance events may be partially or wholly compensated or reimbursed by insurers or third parties and need not be recouped through an increase in tariffs from users. This is outlined in amendment 13.14.

13.4.2.5 Oversight procedures and powers of approval for the cost pass through tariff variation mechanism

Different oversight or powers of approval processes are required for the material threshold events proposed by ActewAGL and the low administrative cost events required to be added by the AER. This section outlines the required amendments to provide the AER adequate oversight or powers of approval over variation of the reference tariff.[615]

The most significant of these oversight and approval powers[616] is the decision making time for assessment of the cost pass throughs. ActewAGL propose a decision making time of 30 business days[617], regardless of the complexity or cost under consideration.

As outlined in sections 13.4.2.2 and 13.4.2.3 above, if ActewAGL provides supporting information from the relevant taxation or regulatory authority about the cost of low administrative cost events, the decision making time can be relatively quick. This is because if this information is provided, this is a direct means of justifying and verifying that the costs being passed through are efficient costs, which significantly reduces the administrative costs of users or prospective users, ActewAGL and the AER.[618]

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614 NGR, r. 97(3)(e).

615 NGR, r. 97(4).

616 NGR, r. 97(4).

617 ActewAGL, *Access arrangement proposal,* June 2009, p. 32.

618 NGR, r. 97(3)(b).

However, for the material threshold events, proposed by ActewAGL, the AER considers that cost pass through events other than a taxation change event are likely to require additional decision making time than the proposed 30 Business Days as outlined in amendment 13.6.

Therefore, the AER considers that the access arrangement proposal needs to be amended as outlined in amendment 13.6 to include an extension of decision making time provision for cost pass through events. The purpose of this extension of the decision making time clause is to enable the AER to undertake public consultation or consideration by an expert consultant because of the difficulty of assessing or quantifying the effect of the relevant cost pass through event or to account for a circumstance beyond the AER's control. The AER proposes that an overall time limit is set for the assessment of a cost pass through applications within 90 business days including extension of decision making time as outlined in amendment 13.6. Amendment 13.6 also outlines consequential amendments to other clauses to take into account the extension of decision making time.

In addition to the decision making time there are a number of other minor amendments required to be made to access arrangement proposal to improve the oversight procedures and powers of approval for the cost pass through tariff variation mechanism.[619]

These include streamlining the assessment of the low administrative threshold events to further reduce administrative costs[620] by considering costs to be pass through once a year at the same time as the annual tariff variations as outlined in amendment 13.15.

In addition an amendment to the notification process to notify the AER when a cost pass through event other than low cost or taxation event occurs as also outlined in amendment 13.15. This notification must be within 3 months of the costs of the defined event being incurred. This is to remove the discretion about if, and when, ActewAGL needs to notify the AER that a material administrative threshold event occurs. This requirement is not intended in any way to prevent ActewAGL submitting an application for a cost pass through event at any time consistent with the approved notification procedures.

13.5 Conclusion

The AER does not propose to approve the tariff variation mechanism proposed by ActewAGL as it does not comply with r. 97 of the NGR and requires ActewAGL to make the amendments set out in below.

13.6 Amendments required to the access arrangement proposal

Before the access arrangement proposal can be approved, ActewAGL must make the following amendments:

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619 NGR, r. 97(3)(b).

620 NGR, r. 97(3)(b).

Amendment 13.1: amend the access arrangement proposal to:

- delete section 1.40 in attachment 3A and section 1.20 in attachment 3B and replace them with:

  The charge for MDQ is the Network Unit Charge for Capacity multiplied by the MDQ, where the Network Unit Charge for Capacity expressed in real exclusive GST 2010–2011 dollars ($/GJ/MDQ per annum) is:

Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 30 June 2015
248.56	260.45	272.90	285.96	299.62

- delete section 1.44 in attachment 3A and section 1.24 in attachment 3B and replace it with:

  The annual quantity block structure and relevant capped rate in real 2010–2011 dollars are:

Annual Quantity Block Structure	Relevant Capped Rate $/GJ Equivalent (exclusive GST 2010–2011 dollars)
First 20 TJ p.a.	3.68
Next 30 TJ p.a.	3.21
All Additional	2.69

- delete the tables in section 1.48 in attachment 3A, section 1.28 in attachment 3B and section 1.19 in attachment 3C and replace them with the following:

Meter Set Type Typical/Alternative Meter Provision of Basic Metering Equipment Charge in $ per annum expressed in real exclusive GST 2010–2011 dollars	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 20 June 2012	Year Ending 30 June 2015
Single Run & Bypass					
Toyo MT5, Email 602, Email 610	48	48	48	48	48
Toyo MT10, Email 1010, Email 750	97	97	97	97	97

AL-425	726	726	726	726	726
AL-1000, AL-1400, Romet RM30	1520	1520	1520	1520	1520
AL-2300, Romet Rm55, Romet RM85, Roots 3M, Instomet G65	2109	2109	2109	2109	2109
Romet Rm140, AL-5000, roots 5M, Instromet G100	2534	2534	2534	2534	2534
Roots 7m, Rockwell TPL9, Instromet G160	3892	3892	3892	3892	3892
Roots 16M, Roots 11M, Instromet G250	4652	4652	4652	4652	4652
Singer 4GT, Rockwell AT-18, Instromet G400	5527	5527	5527	5527	5527
Singer 6GT, Rockwell AT-30	7957	7957	7957	7957	7957
Rockwell AT-60	9380	9380	9380	9380	9380
Single Run & Shunt or Double Run (different Meters) – requiring special charges					
Rockwell AT-30 + AL 1400	9477	9477	9477	9477	9477

- delete and replace the tables in section 1.56 in attachment 3A, section 1.30 in attachment 3B, section 1.21 in attachment 3C and section 1.19 in attachment 3E and replace them with the following:

Ancillary Services Charges in real exclusive GST 2010–2011 dollars	
Request for service	$42.82 plus $42.82 per Hour after the first Hour
Special meter read	39.91
Reconnection fee	75.39
Disconnection fee	102.02

- delete section 1.18 in attachment 3C and replace it with the following:

> The Throughput Charge expressed in exclusive GST real 2010–2011 dollars ($/GJ/throughput) is:

Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 30 June 2015
3.64	3.82	4.00	4.19	4.39

- delete section 1.14 in attachment 3E and replace it with the following:

  The Fixed Charges for the Tariff Service per annual in real GST exclusive 2010–2011 dollars are:

Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 30 June 2015
41.36	41.36	41.36	41.36	41.36

- delete section 1.15 in attachment 3E and replace it with the following:

  The Throughput Charge for the Tariff Service per annum in GST exclusive real 2010–2011 dollars are:

Throughput Charge for Tariff Service ($/GJ) in real GST exclusive 2010–2011 dollars

Block Size (GJ per Mth)	Block Size (GJ Per Qtr)	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 30 June 2015
First 1.25	First 3.75	7.69	8.07	8.48	8.90	9.34
Next 82.25	Next 246.75	6.09	6.39	6.71	7.04	7.39
Next 333.5	Next 1000.5	5.56	5.83	6.12	6.42	6.74
All additional	All additional	3.91	4.11	4.31	4.52	4.75

Provision of Basic Metering Equipment Charge in real GST exclusive 2010–2011 dollars

Meter Provision Charges	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 20 June 2015
For meters with Capacity less than or equal to $6m^3$/hr ($p.a.)	25.62	25.62	25.62	25.62	25.62
For meters with a Capacity of greater than $6m^3$/hr ($/GJ)	0.21	0.21	0.21	0.21	0.21

- delete section 1.17 in attachment 3E and replace it with the following:

> For meters with a capacity greater than 6m^3/hr there is a minimum payable each period. This minimum in real 2010–2011 dollars is $2.64 per Monthly billing period and $7.97 per quarter billing period.

- delete the Table in section 1.20 in attachment 3F and replace it with:

Provision of On-Site Data and Communication Equipment Charge ($ p.a.) in real GST exclusive 2010–2011 dollars

	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 20 June 2015
Charge per Delivery Station (includes the first 2 meters at a Delivery Station)	1541	1541	1541	1541	1541
Charge for each additional 1 or 2 meters at a Delivery Station	366	366	366	366	366

- delete the tables in section 1.21 in attachment 3F and replace them with the following:

Provision of Meter Reading Charge for Tariff Delivery Points ($ p.a.) in real GST exclusive 2010–2011 dollars

Meter Reading Cycle	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 20 June 2015
Quarterly	4.56	4.56	4.56	4.56	4.56
Monthly	43.41	43.41	43.41	43.41	43.41

Provision of Meter Reading Charge for Non-Tariff Delivery Points ($ p.a.) in real GST exclusive 2010–2011. dollars

	Year Ending 30 June 2011	Year Ending 30 June 2012	Year Ending 30 June 2013	Year Ending 30 June 2014	Year Ending 20 June 2015
Charge per Delivery Station (includes the first 2 meters at a Delivery Station)	671	671	671	671	671
Charge for each additional 1 or 2 meters at a Delivery Station	160	160	160	160	160

Amendment 13.2:

- delete clause 6.4 in the access arrangement proposal and clause 11.3.1 in the access arrangement information and replace them with the following:

> The formula operates as the first part of a single Reference Tariff variation mechanism
>
> $$P_t = P_t^* (1 + CPI_t)$$
>
> Where P_t is the varied Reference Tariff for the relevant financial year t
>
> P_t^* is the unadjusted and published reference tariff
>
> CPI_t is the CPI in year t relative to the base year prices defined in clause 6.6in the Access Arrangement.

Amendment 13.3: delete the CPI formulas in clause 6.6 in the access arrangement and section 11.3.1.3 in the access arrangement information and replace them with the following:

Amendment 13.4: amend clause 6.4 in the access arrangement proposal and section 11.3.1.3 in the access arrangement information to define 't' as the year ended 30 June each year of the access arrangement period. For example the t = 2011 for the financial year 2010-2011.

Amendment 13.5: amend clause 6.4 of the access arrangement to include a rounding convention.

Amendment 13.6: amend the access arrangement proposal to:

- delete clause 6.13 and replace it with the following:

> The Relevant Regulator must notify ActewAGL of its decision within 30 Business Days of receiving the notification. This period may be extended for the time taken by the Relevant Regulator to obtain information from ActewAGL, obtain expert advice or consult about the notification under 6.7, 6.7(a) or 6.10. However, the Relevant Regulator must assess a cost pass through application within 90 Business Days, including any extension of the decision making time.

- delete clause 6.14 and replace it with the following:

> If ActewAGL has not received notification from the Relevant Regulator of its decision within 30 Business Days (excluding any extension of time outlined in 6.13) of receiving a notification under 6.7, 6.9(a) or 6.10, the Reference Tariff will be automatically varied in accordance with the relevant notification given by ActewAGL.

Amendment 13.7: delete clause 6.7(b) in the access arrangement proposal and replace it with the following:

> An explanation of how the varied Reference Tariffs have been calculated, including details of how the reference Tariffs have been varied in accordance with the formula contained in clauses 6.4 and 6.5 of this Access Arrangement. ActewAGL must provide workings how the proposed tariffs have been estimated using relevant tariffs in the access arrangement tariff schedule as a reference.

Amendment 13.8: delete clause 6.2(a) in the access arrangement proposal and replace it with the following:

> An annual scheduled Reference Tariff adjustment formula mechanism – which applies in respect of each year during the Access Arrangement period; and

Amendment 13.9: amend:

- the access arrangement proposal to delete the definition for the STTM event and replace it with the following:

> **Short Term Trading Market Event** occurs if ActewAGL participates in the Short Term Trading Market, resulting in:
>
> (a) changes in costs that ActewAGL incurs directly or indirectly (including under statute or contract); or
>
> (b) the need to change services provided to accommodate the market, leading to additional costs

- the access arrangement information to delete the definition for the STTM event in clause 6.20 in Table 11.13 and in clause 11.3.2.1 and replace them with the following:

> **Short Term Trading Market Event** occurs if ActewAGL participates in the Short Term Trading Market, resulting in:
>
> (a) changes in costs that ActewAGL incurs directly or indirectly (including under statute or contract); or
>
> (b) the need to change service provided to accommodate the market, leading to additional costs

Amendment 13.10: amend:

- the access arrangement proposal to include a definition for a low administrative cost event to account for the difference between actual and forecast costs in relation to the AEMO fee, UNFT, EIL and UAG in clause 6.20

- the access arrangement proposal to categorise the change in taxation event as a low administrative cost event

- the definition for the change in tax event in clause 6.20 in the access arrangement proposal and in Table 11.13 in the access arrangement information delete the words:

> except where the change falls within the scope of the Annual Reference Tariffs Variation Formula Mechanism

- the access arrangement information by updating section 11.3.2.2 for changes to the access arrangement proposal in amendment 13.10.

Amendment 13.11:

- amend clause 6.19 in the access arrangement proposal to delete the words material impact and replace them with the words administrative cost impact.

- amend clause 6.20 of the access arrangement proposal to:

  - delete the definition for change in cost and replace it with the following:

    > **Change in Cost** means the decrease or increase in operating expenditure or capital expenditure incurred as a result of the Cost Pass-Through Event, in the Access Arrangement Period.

  - delete the definition for material impact and replace it with the following:

    > **Administrative Cost Impact** means a Cost Pass-Through Event for which the incurred Change in Cost, as a result of each event occurring, is:
    >
    > (a) in the case of a notification under clause 6.8 – for all cost pass through events except Change in Tax Event and Low Administrative Cost Event– at least one per cent of total revenue approved in the relevant year that a cost pass through cost is incurred.
    >
    > (b) in the case of the notification under clause 6.8 – for Change in Tax Event or Low Administrative Cost Event – where the change in cost incurred is greater in magnitude than the administrative costs of the service provider, users and the Relevant Regulator in making a notification; and that the incurred cost of these event can be readily verified by documentation such as invoices or independently audited information. A Change in Tax Event or Low Administrative Cost Event which cannot be supported by will subject to the Administrative Cost Impact in (a).

- delete subclause (b) of the definition of the service standard event in clause 6.20 in the access arrangement proposal and in Table 11.13 in the access arrangement information and replace it with the following:

  > results in ActewAGL incurring or being likely to incur materially higher or lower costs in providing any one or more of the Services than it would have occurred but for that event

- delete the word material and materially from the definition of the general pass through event and regulatory change event in clause 6.20 of the access arrangement proposal and Table 11.13 in the access arrangement information.

Amendment 13.12: amend clause 6.11 in the access arrangement proposal to include a new subclause (m):

> how each individual pass through events takes into consideration the Administrative Cost Impact (defined in clause 6.20). All cost through events will be considered by the Relevant Regulator subject to each individual event having an Administrative Cost Impact (defined in clause 6.20) on the cost of providing reference services.

Amendment 13.13: delete clause 6.16 in the access arrangement proposal and replace it with the following:

In making the decisions referred to in clause 6.12, the Relevant Regulator must take into account the following:

i. The costs to be passed through are for the delivery of pipeline services

ii. The costs to be passed through are building block components of total revenue

iii. The costs to be passed through meet the relevant NGR criteria for determining the building block for total revenue in determining reference services

iv. The costs to be passed through have not been funded by other means including self insurance, external insurance or paid for or compensated by another third party

v. Any other factors the Relevant Regulator considers is relevant and consistent with the National Gas Law and National Gas Rules.

Amendment 13.14: amend clause 6.11 in the access arrangement proposal to include two new subclauses:

using a verification statement by an officer of the service provider that the financial impact of the Cost Pass-Through Event in an application under clauses 6.9 and 6.10 is net of any third party including insurer payment or reimbursement in connection with the event. The verification statement will also provide information about the financial impact of the event less any reimbursement or payment made by a third party in connection with the event to verify the financial impact of the event in an application under clauses 6.9 and 6.10

an application under clauses 6.9 and 6.10 for a Low Administrative Cost Event must be supported by information about the financial impact of taxation change event from the relevant taxation or regulatory authority. Applications for Cost Pass-Through Events other than taxation change events must be supported by relevant information to justify the financial impact of the events with reference to the relevant capital and/or operating expenditure criteria.

Amendment 13.15: delete clause 6.9 in the access arrangement and replace it with the following:

Subject to 6.10, at least 50 Business Days prior to each 1 July during the access arrangement period ActewAGL will notify the Relevant Regulator that a Cost Pass-Through Event has occurred (or ActewAGL reasonably expects one will occur) and that ActewAGL is seeking to vary Reference Tariffs. Tariffs will only change once a year on 1 July as a result of cost pass through events that have a low materiality cost (a change in tax event and the event that accounts for the difference between actual and forecasted costs in AEMO fee, UNFT, EIL and UAG). Regardless of whether a cost pass through event leads to tariffs increasing or decreasing, ActewAGL must notify the Relevant Regulator that a cost pass through event other than low cost or taxation events has occurred no later than 3 months after the costs of a cost pass through event have been incurred.

Part C – Other provisions of an access arrangement

14 Non-tariff components

14.1 Introduction

This chapter considers the non-tariff components of ActewAGL's access arrangement proposal. The NGR sets out criteria for determining which pipeline services constitute reference services and the terms and conditions on which service providers are to grant third parties access to these services.

14.2 Terms and conditions

14.2.1 Regulatory requirements

Rule 48(1)(d)(ii) of the NGR provides that a full access arrangement must specify for reference services the other terms and conditions on which reference services will be provided (additional to the reference tariff).[621]

14.2.2 ActewAGL's proposal

The general terms and conditions on which ActewAGL proposes to offer pipeline services are set out in chapter 3 of the access arrangement proposal. Additional service specific terms and conditions are set out in attachments 3A–3F of the access arrangement proposal. ActewAGL submits that the only significant amendments to the general terms and conditions reflect the transition from the Code to the NGL and NGR.[622]

For ancillary services, ActewAGL only provides ancillary services charges in real 2009–10 dollars in a tabular format. No reference tariff or further terms and conditions are provided.[623]

14.2.3 AER's analysis and considerations

The AER has reviewed ActewAGL's access arrangement proposal. The terms and conditions set out in the proposal are largely consistent with those of the earlier access arrangement[624] and the revisions reflect changes to the regulatory requirements introduced by the NGL and NGR.

Reference Tariff

ActewAGL has not specified the reference tariff for ancillary services. ActewAGL accordingly does not meet the requirements of rule 48(1)(d)(i) of the NGR because it does not specify the reference tariff for ancillary services. ActewAGL is required to specify the reference tariff for the ancillary services reference service as outlined in amendment 13.1.

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621 NGR, r. 48(1)(d)(ii).

622 ActewAGL, *Access arrangement information*, June 2009, p. 265.

623 ActewAGL, *Access arrangement information*, June 2009, p. 228 and ActewAGL, *Access arrangement proposal*, June 2009, attachment 3A, clauses 1.56–1.57; attachment 3B, clauses 1.30–1.31; attachment 3C, clauses 1.21–1.22; attachment 3E, clauses 1.19–1.20.

624 ICRC, *Final decision, Review of access arrangement for ActewAGL natural gas system in ACT, Queanbeyan and Yarrowlumla*, October 2004, pp. 53–59.

Conclusion
The AER does not propose to approve ActewAGL's proposed specification of the reference tariff for reference services as it does not comply with r. 48(1)(d)(i) of the NGR and requires ActewAGL to make the following amendments:

Amendment 14.1: amend the access arrangement proposal to delete clauses 1.56–1.57 in attachment 3A, clauses 1.30–1.31 in attachment 3B, clauses 1.21–1.22 in attachment 3C, and clauses 1.19–1.20 in attachment 3E.

Amendment 14.2: amend the access arrangement information to reflect amendment 14.1.

14.2.3.1 General terms and conditions

Ancillary services

ActewAGL has not included ancillary services in its definition of services or reference services.[625] This means that this service is not subject to the general terms and conditions for access set out in chapter 3 of the access arrangement proposal. Ancillary services are also not subject to any specific terms and conditions. The access arrangement proposal accordingly does not comply with r. 48(1)(d)(ii) of the NGR.

Conclusion
The AER does not propose to approve ActewAGL's proposed specification of the terms and conditions on which reference services will be provided as it does not comply with r. 48(1)(d)(ii) and r. 100 of the NGR and requires ActewAGL to make the following amendments:

Amendment 14.3: specify the other terms and conditions on which the ancillary services reference service will be provided. In order to comply with this, ActewAGL must include in the access arrangement proposal (i) the other terms and conditions on which this reference services is provided; and (ii) amend the access arrangement information to reflect these amendments.

Title to and responsibility for gas

ActewAGL proposes amending clause 3.41 of the access arrangement proposal regarding the title to and responsibility for gas to clarify the position regarding the title to gas.[626] The proposed amendment states that title to gas delivered into the ACT, Queanbeyan and Palerang gas distribution network does not pass to ActewAGL 'except for OBG and UAG purchased by ActewAGL'.[627] 'OBG' is not defined in attachment 1 to the access arrangement proposal.

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625 ActewAGL, *Access arrangement proposal*, June 2009, attachment 1, p. 49.

626 ActewAGL, *Access arrangement information*, June 2009, p. 266.

627 ActewAGL, *Access arrangement proposal*, June 2009, p. 12.

Conclusion
The AER does not propose to approve ActewAGL's proposed specification of the terms and conditions on which reference services will be provided as it does not comply with r. 48(1)(d)(ii) of the NGR and requires ActewAGL to make the following amendments:

Amendment 14.4: amend attachment 1in the access arrangement proposal to include a definition of 'OBG'.

14.2.3.2 Specific terms and conditions

Specific terms and conditions for each of the reference and non-reference services are contained in each of the service specific attachments to the proposal.[628] These terms and conditions are largely the same as those in the earlier access arrangement.

Typographical error
The AER notes that footnote 14 of attachment 3B appears to contain a typographic error as it refers to '19 Charges for new types of metering devices'. The AER proposes that ActewAGL amend this by deleting '19'.

Conclusion
The AER does not propose to approve ActewAGL's proposed specification of the reference tariff for reference services as it does not comply with r. 48(1)(d)(i) of the NGR and requires ActewAGL to:

Amendment 14.5: delete the reference to '19' charges, in footnote 14 in attachment 3B and replace it with the following:

> 'Charges for new types of metering devices introduced during the Access Arrangement will be determined by ActewAGL on an equivalent size and function basis.'

14.3 Capacity trading requirements

14.3.1 Regulatory requirements

Rule 48(1)(f) of the NGR provides that a full access arrangement must set out capacity trading requirements.[629]

As ActewAGL submitted its access arrangement proposal on 30 June 2009, the AER considers that ActewAGL's proposal is subject to r. 105 of Version 1 of the NGR. Version 2 of the NGR became operative on 1 July 2009.[630]

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628 ActewAGL, *Access arrangement proposal*, June 2009, attachments 3A–F, pp. 60–89.

629 NGR, r. 48(1)(f).

630 NGR, r. 2.

Rule 105(1) of Version 1 of the NGR provides that capacity trading requirements must provide for the transfer of capacity. This must be in accordance with any rules governing a gas market that are applicable to the service provider, or r. 105 of the NGR if there are no such applicable rules.[631]

Rule 105(2) covers the transfer of capacity trading requirements without the service provider's consent. The transfer of capacity with a service provider's consent is detailed in r. 105(3) of the NGR. Capacity trading requirements may specify conditions under which consent will or will not be given and conditions to be complied with if consent is given.[632] A service provider is precluded from withholding their consent unless they have reasonable grounds, based on technical or commercial considerations, for doing so.[633]

14.3.2 ActewAGL's proposal

ActewAGL proposes a trading policy to provide users with the ability to alter their rights in certain circumstances as set out in ActewAGL's access arrangement proposal.[634] ActewAGL provides that 'clause 8' is subject to the Gas Retail Market Business Rules to Support Retail Competition in Gas in the ACT and NSW (Business Rules)[635] and that ActewAGL may, subject to the requirements of the NGR, give or withhold its consent to a proposed capacity trade (other than a bare transfer[636]) on reasonable commercial and technical grounds and impose reasonable conditions on the consent.[637]

ActewAGL's access arrangement proposal outlines timelines for responding to users' capacity transfer requests.[638]

14.3.3 AER's analysis and considerations

Business Rules

ActewAGL proposes to include a statement that the transactions referred to in clause 8 are subject to the Business Rules. The AER assumes that the reference to 'clause' is a typographical error and 'chapter' is meant. ActewAGL must clarify that matters referred to in chapter 8 of the access arrangement proposal are only subject to the Business Rules insofar as they are not subject to r. 105 of the NGR.

ActewAGL must also amend its definition of 'Business Rules' set out in attachment 1 to the access arrangement proposal in order to clarify that if the Business Rules are no

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631 Rule 105(1) of the NGR was amended in Version 2 and now refers to registered participants in a gas market.

632 NGR, r. 105(6).

633 NGR, r. 105(4).

634 ActewAGL, *Access arrangement proposal*, June 2009, p. 39.

635 ActewAGL, *Access arrangement proposal*, June 2009, p. 39.

636 The term 'bare transfer' is defined in attachment 1 of the access arrangement proposal. See ActewAGL, *Access arrangement proposal*, June 2009, attachment 1, p. 45.

637 ActewAGL, *Access arrangement proposal*, June 2009, p. 39.

638 ActewAGL, *Access arrangement proposal*, June 2009, p. 39.

longer applicable, any other rules or procedures which govern a gas market that is applicable to ActewAGL will apply.

Conclusion
The AER does not propose to approve ActewAGL's capacity trading requirements as they do not comply with r. 105(1) of the NGR and requires ActewAGL to make the following amendments:

Amendment 14.6: delete clause 8.1 in the access arrangement proposal and replace it with the following:

> Matters referred to in this chapter 8 are subject to the Business Rules insofar as they are not subject to rule 105 or rule 106 of the National Gas Rule.

Amendment 14.7: delete the definition of 'Business Rules' in attachment 1 in the access arrangement proposal and replace it with the following:

> Business Rules means the *Gas Retail Market Business Rules to Support Retail Competition in Gas* in the ACT and New South Wales (or, if these rules are no longer applicable, any other rules or procedures which govern a gas market that is applicable to ActewAGL) in force from time to time.

Transfers without consent (bare transfers)

ActewAGL proposes to amend the access arrangement to include a requirement that users notify ActewAGL of capacity transfers made without its consent ('bare transfers') consistent with r. 105 of the NGR.

The proposed amendment replicates r. 105 except it requires users to notify it of the subcontract and its duration as opposed to the 'likely duration' referred to in r. 105 of the NGR.

Conclusion
The AER does not propose to approve ActewAGL's capacity trading requirements as they do not comply with r. 105(1) of the NGR and requires ActewAGL to make the following amendments:

Amendment 14.8: delete clause b(i) in the definition of 'Bare Transfer' in attachment 1 in the access arrangement proposal and replace it with the following:

> the subcontract and its likely duration;

Reasonable commercial terms and technical grounds

Clause 8.6 of the access arrangement proposal provides that ActewAGL can give or withhold its consent to capacity trades other than bare trades on reasonable commercial terms and technical grounds and impose reasonable conditions on that consent. No examples are given.

The inclusion of examples provides greater certainty to users and will accordingly promote the national gas objective outlined in s. 23 of the NGL.

Section 3.11 of the Code sets out examples of things that would be reasonable for the purposes of the trading policy. The NGR does not contain an equivalent provision but does permit for examples to be given.[639] An example of a reasonable commercial and technical ground would be where, after the change, ActewAGL would not receive at least the same amount of revenue it would have received before the change.

Conclusion
The AER does not propose to approve ActewAGL's proposed capacity trading requirements as they do not comply with r. 105(1) of the NGR and requires ActewAGL to make the following amendments:

Amendment 14.9: delete clause 8.6(a) of the access arrangement proposal and replace it with the following:

> Give or withhold its consent under clause 8.4 or 8.5, on reasonable commercial and technical grounds. An example might be, if ActewAGL would not receive at least the same amount of revenue it would have received before the change.

Responsiveness to urgent requests

Clause 8.8 of the access arrangement proposal provides that ActewAGL will take reasonable steps to respond to urgent requests for capacity transfers within five business days. The access arrangement currently specifies that a response will be made within two days. ActewAGL has not given any reasons in support of this proposed change.

The AER notes that the ICRC did not approve the same amendment in the earlier access arrangement because of concern that the increased response time may not be commercially acceptable to users.[640] The AER similarly considers that two rather than five business days provides a commercially acceptable response time. In adopting a commercially acceptable response time, ActewAGL will promote the efficient investment in and efficient operation and use of natural gas services for the long-term interests of consumers of natural gas in accordance with s. 23 of the NGL.

Conclusion
The AER does not propose to approve ActewAGL's proposed capacity trading requirements as they do not comply with r. 105(1) of the NGR and requires ActewAGL to make the following amendments:

Amendment 14.10: delete clause 8.8 of the access arrangement proposal and replace it with the following:

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639 NGR, r. 105(6).

640 ICRC, *Draft decision: Review of access arrangement for ActewAGL natural gas system in ACT, Queanbeyan and Yarrowlumla*, July 2004, p. 204.

If at the time the request is made a User informs ActewAGL that due to hardship the User requires an urgent reply to its request, ActewAGL will take reasonable steps to respond to the request within 2 Business Days of receiving the request.

14.4 Queuing

14.4.1 Regulatory requirements

Rule 48(1)(e) of the NGR provides that a full access arrangement must set out queuing requirements if the AER has given prior notification of the need to include queuing requirements under r. 103 of the NGR.[641]

Rule 103(3) of the NGR provides that queuing requirements must establish a process or mechanism (or both) for establishing an order of priority between prospective users of spare or developable capacity (or both) on which all prospective users (whether associates of, or unrelated to, the service provider) are treated on a fair and equal basis.

Rule 103(5) of the NGR provides that queuing requirements must be sufficiently detailed to enable prospective users:

(a) to understand the basis on which an order of priority between them has been, or will be, determined; and

(b) if an order of priority has been determined – to determine the prospective user's position in the queue.

14.4.2 ActewAGL's proposal

ActewAGL's queuing policy states that priority is determined according to the time and date on which ActewAGL receives requests for services[642] and the ability of the available capacity to fully satisfy the applicant's requirement.[643]

Requests for reference services receive priority over requests for negotiated services. In terms of reference services, requests for short-term capacity[644] have the lowest priority.[645]

ActewAGL's proposed queuing policy excludes requests for services with a maximum hourly quantity of less than $6m^3$/hour.[646] The Business Rules are stated to apply to these.[647]

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641 NGR, r. 48(1)(e) and r. 103.

642 ActewAGL, *Access arrangement proposal*, June 2009, p. 40.

643 ActewAGL, *Access arrangement proposal*, June 2009, p. 41.

644 That is, withdrawals of gas for a minimum period of one week up to a maximum period of four weeks. See ActewAGL, *Access arrangement proposal*, June 2009, clause 1.24, p. 63.

645 ActewAGL, *Access arrangement proposal*, June 2009, p. 42.

646 ActewAGL, *Access arrangement proposal*, June 2009, attachment 2, clause 1.5, p. 53.

647 ActewAGL, *Access arrangement proposal*, June 2009, attachment 2, clause 1.6, p. 53.

14.4.3 AER's analysis and considerations

ActewAGL has no obligation to include queuing requirements as it operates a distribution pipeline.

ActewAGL's proposal, however, includes queuing requirements. These are similar to those contained in the earlier access arrangement.[648] ActewAGL submits that it has adopted a position of carrying forward as much of the earlier access arrangement proposal as possible to ensure continuity and certainty for users.[649]

The AER has reviewed the queuing requirements set out in ActewAGL's proposal and notes:

- clauses 9.4–9.5 and 9.9–9.14 of the proposal set out how the order of priority between prospective users will be determined. This is in accordance with r. 103(5)(a) of the NGR

- clauses 9.5–9.6, 9.8 of the proposal enable prospective users to determine their position in the queue. This is in accordance with r. 103(5)(b) of the NGR, and

- the access arrangement proposal establishes a process for establishing an order of priority between prospective users, by adopting a general first-come-first-served principle. Adopting a first-come-first-served principle is in accordance with r. 103(3) and r. 103(4)(a) of the NGR.

The queuing requirements state more particularly, relevantly, that:

- capacity will be offered to those users whose requested requirements can be fully satisfied by the available capacity,[650] and

- requests for reference services will have priority over requests for negotiated services[651] and requests for short-term capacity will have the lowest priority.[652]

ActewAGL will prioritise requests for reference services over requests for negotiated services and short-term capacity services.[653] The AER accepts that a supply of a reference service over a negotiated service or short-term capacity service is more likely to lead to the optimal use of the pipeline.

Conclusion
The AER proposes to approve ActewAGL's proposed queuing requirements as they comply with r. 48(1)(e) and 103 of the NGR.

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[648] ICRC, *Final decision: Review of access arrangement for ActewAGL natural gas system in ACT, Queanbeyan and Yarrowlumla*, October 2004, pp. 248–252.

[649] ActewAGL, *Email to AER*, 7 August 2009, pp. 3–4.

[650] ActewAGL, *Access arrangement proposal*, June 2009, clause 9.9, p. 41.

[651] ActewAGL, *Access arrangement proposal*, June 2009, clause 9.13, p. 42.

[652] ActewAGL, *Access arrangement proposal*, June 2009, clause 9.14, p. 42.

[653] ActewAGL, *Access arrangement proposal*, June 2009, clauses 9.13 and 9.14, p. 42.

14.5 Extensions and expansions requirements

14.5.1 Regulatory requirements

Rule 48(1)(g) of the NGR provides that a full access arrangement must set out extension and expansion requirements.[654]

Rule 104(1) of the NGR provides that extension and expansion requirements may state whether the applicable access arrangement will apply to incremental services provided as a result of a particular extension or expansion or may allow for later resolution of this on a basis stated in the requirements. Insofar as the requirements provide that an access arrangement applies to incremental services, r. 104(2) of the NGR provides that the requirements must deal with the effect of the extension or expansion on tariffs.

14.5.2 ActewAGL's proposal

ActewAGL proposes that unless an extension or expansion is excluded with agreement of the AER, all extensions to, and expansions of, ActewAGL's pipeline will by default be treated as part of the covered pipeline and covered by the access arrangement.[655] An expansion or extension cannot be excluded from the access arrangement where the cost of the expansion or extension has been included in the calculation of the reference tariffs.[656]

Reference tariffs will remain unchanged where extensions or expansions are treated as part of the covered pipeline.[657] ActewAGL submits that it may, however, increase the capital base or charge users a surcharge or seek a capital contribution in accordance with its reference tariff policy.[658]

14.5.3 AER's analysis and considerations

The only amendment ActewAGL proposes to make is to clarify that reference tariffs will not change where extensions to, and expansions of the capacity, of the pipeline are treated as part of the covered pipeline.[659]

The AER has reviewed ActewAGL's extension and expansion requirements and considers that this complies with r. 104 of the NGR but that preferable alternatives that comply with the NGL and are consistent with applicable criteria in accordance with r. 40(3) of the NGR exist. These are outlined following.

Clause 7.1 of the access arrangement proposal provides that it will apply to all extensions or expansions. Clauses 7.2 and 7.3 provide that an extension or expansion will not be covered if ActewAGL gives the AER written notice and the AER permits the significant extension or expansion to be excluded on that basis. Clause 7.4

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654 NGR, r. 48(1)(g).

655 ActewAGL, *Access arrangement proposal*, June 2009, p. 38.

656 ActewAGL, *Access arrangement proposal*, June 2009, p. 38.

657 ActewAGL, *Access arrangement proposal*, June 2009, part 4, pp. 18–24.

658 ActewAGL, *Access arrangement proposal*, June 2009, clause 7.6, p. 38.

659 ActewAGL, *Access arrangement proposal*, June 2009, clause 7.5, p. 38.

provides that ActewAGL will not be able to nominate not to include an extension or expansion if the cost of the extension or expansion has been included in the reference tariff.

The AER considers that whether a particular extension should be covered by default under the access arrangement will depend on whether the extension relates to a high pressure pipeline or a medium or low pressure pipeline.

High pressure pipeline extensions

If ActewAGL seeks to extend a high pressure pipeline it will be required to apply to the AER for a decision regarding whether or not the proposed extension will form a part of the covered pipeline and, therefore, be covered by the access arrangement. This will enable the AER to consider on each occasion whether it is appropriate in the circumstances for the proposed extension to be covered by the access arrangement and whether this is in accordance with the national gas objective.[660]

The AER notes that high pressure pipeline extensions have characteristics similar to transmission pipelines and, from a pipeline coverage perspective, should not receive default coverage under the access arrangement. The pipeline can be extended for a variety of reasons such as servicing a large industrial user requiring the network to be extended to its premises or supporting the distribution network generally. Therefore, the reasons for the extension and the degree of its integration into the existing network will assist in determining whether the extension should be covered. In the circumstances, the AER considers it is not appropriate for high pressure pipeline extensions to receive coverage under the access arrangement by default. The AER will be best placed to consider such matters with any degree of certainty at the time it is notified of a proposed high pressure pipeline extension. The AER considers that ActewAGL must replace clauses 7.1 and 7.2 of the access arrangement proposal to clarify this and to require ActewAGL to advise the AER within 20 business days of completion of its financial year of all low and medium pressure pipeline extensions including all extensions commenced, in progress and completed during that financial year. The AER also considers that ActewAGL must amend clauses 7.3 and 7.4 of the access arrangement proposal by deleting these.

Low and medium pressure pipeline extensions

The AER considers that it is appropriate that low and medium pressure pipeline extensions be covered by default by the access arrangement, subject to ActewAGL notifying the AER that the extensions have been made. Low and medium pressure pipeline extensions to distribution networks are often embedded in and occur throughout the network. Coverage by default will allow such extensions to be built and covered by the access arrangement. This is likely to contribute to the promotion of the efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to safety, reliability and security of supply of natural gas.[661] ActewAGL must advise the AER within 20 business days of completion of its financial year of all low and medium pressure pipeline extensions including all extensions commenced, in progress and

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660 NGL, s. 23.

661 NGL, s. 23.

completed during that financial year. The AER considers that a new provision for medium and low pressure pipeline extensions must be inserted into the access arrangement proposal.

Clause 7.5 provides that an extension or expansion will not affect reference tariffs if the extension or expansion does form part of the covered pipeline. Clause 7.6 provides that ActewAGL may increase the capital base or charge users a surcharge or capital contribution. ActewAGL accordingly complies with the requirement set out in r. 104(2) of the NGR that extension and expansion requirements deal with the effect of the extension or expansion on tariffs. However, the AER considers, in accordance with r. 40(3) of the NGR, wording based more closely on r. 83(2) NGR to be preferable. The AER accordingly considers that ActewAGL must amend clause 7.6 of the access arrangement proposal to clarify that the proposed surcharge is to be levied on users of incremental services and is designed to recover non–conforming capital expenditure or a specified portion of non–conforming capital expenditure.

Expansions

Clause 7.1 of the access arrangement proposal provides that expansions are covered by default unless ActewAGL elects otherwise. The AER accepts that expansions of pipeline capacity should be covered by default by the access arrangement subject to the AER being notified that the expansion has occurred.

Default coverage will address any concerns regarding the potential for a service provider to exercise market power. Default coverage will therefore promote the efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to safety, reliability and security of supply of natural gas.[662] The AER considers that ActewAGL must amend clauses 7.1, 7.2, 7.3 and 7.4 of the access arrangement proposal as stated earlier and insert a new clause 7.3 to clarify the treatment of expansions and to require ActewAGL to advise the AER within 20 business days of completion of its financial year of all low and medium pressure pipeline extensions including all extensions commenced, in progress and completed during that financial year.

Conclusion

The AER does not approve ActewAGL's proposed extensions and expansions requirements and under r. 40(3) of the NGR requires ActewAGL to make the following amendments:

Amendment 14.11: delete clauses 7.1 and 7.2 in the access arrangement proposal and replace them with the following:

> 7.1 Extensions of high pressure pipelines
>
> (a) If ActewAGL proposes a high pressure pipeline extension of the Covered Pipeline it must apply to the Relevant Regulator in writing to decide whether the proposed extension will be taken to form part of the Covered Pipeline and will be covered by this Access Arrangement. The application must

662 NGL, s. 23.

describe the extension and set out why the extension is necessary.

(b) The application referred to in (a) above must be made before the proposed high pressure pipeline extension comes into service.

(c) After considering ActewAGL application, and undertaking such consultation as the Relevant Regulator considers appropriate, the Relevant Regulator will inform ActewAGL of its decision.

(d) The Relevant Regulator's decision referred to in (c) above, may be made on such reasonable conditions as determined by the Relevant Regulator and will have the effect stated in the decision.

7.2 Extensions of medium and low pressure pipelines

Any low or medium pressure pipeline extension of the Capacity of the Network will be treated as part of the Network and accordingly covered by this Access Arrangement. No later than 20 Business Days following the expiration of its financial year, ActewAGL must notify the Relevant Regulator of all low and medium pressure pipeline extensions including all extensions of the Capacity of the Network during that year including all extensions commenced, in progress and completed. The notice must describe each extension and set out why the extension was necessary.

Amendment 14.12: delete clause 7.3 in the access arrangement proposal and replace it with the following:

Expansions

All expansions to the Capacity of the Network carried out by ActewAGL will be treated by ActewAGL as a Covered Pipeline and covered under this Access Arrangement. No later than 20 Business Days following the expiration of each year, ActewAGL must notify the Relevant Regulator of all expansions of the Capacity of the Network during that year including all expansions commenced, in progress and completed. The notice must describe each expansion and set out why the expansion was necessary.

Amendment 14.13: delete clause 7.4 in the access arrangement proposal and replace it with the following:

Clauses 7.2 and 7.3 do not apply where the cost of the extension or expansion has been included in the calculation of Reference Tariffs.

Amendment 14.14: delete clause 7.6 in the access arrangement proposal with the following:

Surcharge

ActewAGL will notify the Relevant Regulator of any proposed Surcharge to be levied on users of incremental services and designed to recover non-conforming capital expenditure or a specified portion of non-conforming capital expenditure (non-conforming capital expenditure which is recovered by means of a Surcharge will not be rolled into the capital base).

Amendment 14.15: amend the access arrangement information to reflect **amendments 14.11-14.14.**

14.6 Terms and conditions for changing receipt and delivery points

14.6.1 Regulatory requirements

Rule 48(1)(h) of the NGR provides that a full access arrangement must set out the terms and conditions for changing receipt and delivery points.[663]

Rule 106 of the NGR provides that an access arrangement must provide for the change of a receipt or delivery point with the service provider's consent. The service provider is precluded from withholding their consent unless it has reasonable grounds, based on technical or commercial considerations, for doing so.[664] The access arrangement may specify conditions under which consent will or will not be given and conditions to be complied with if consent is given.[665]

14.6.2 ActewAGL's proposal

ActewAGL proposes to allow users to change receipt or delivery points where this is required as a result of a transfer of capacity. ActewAGL's prior written consent must be obtained.[666]

ActewAGL proposes that it may, subject to the requirements of the NGR, give or withhold its consent to a proposed change of receipt or delivery point on reasonable commercial and technical grounds and impose reasonable conditions on the consent.[667]

ActewAGL's access arrangement proposal outlines timelines for responding to users' requests.[668]

14.6.3 AER's analysis and considerations

Clauses 8.1, 8.5, 8.6–8.8 of ActewAGL's access arrangement proposal regarding reasonable commercial terms and technical grounds and responsiveness to urgent requests apply to both capacity trading requirements and terms and conditions for changing receipt and delivery points. Please refer to section 14.3 for a discussion of these points.

Conclusion
The AER does not propose to approve ActewAGL's proposed terms and conditions for changing receipt and delivery points as they do not comply with r. 106 of the NGR and requires ActewAGL to make the amendments outlined in section 14.3.3 of the draft decision.

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663 NGR, r. 48(1)(h).

664 NGR, r. 106(1).

665 NGR, r. 106(2).

666 ActewAGL, *Access arrangement proposal*, June 2009, p. 39.

667 ActewAGL, *Access arrangement proposal*, June 2009, p. 39.

668 ActewAGL, *Access arrangement proposal*, June 2009, p. 39.

14.7 Review dates

14.7.1 Regulatory requirements

Unless the full access arrangement is voluntary,[669] it must contain a review submission date and the revision commencement date. However, it may not include an expiry date.[670]

As a general rule, a review submission date will fall four years and a revision commencement date will fall five years after the access arrangement took effect or the last revision commencement date.[671] The AER is obligated to accept a service provider's proposed review submission and commencement dates if these are made in accordance with the general rule set out in r. 50 of the NGR.[672] It may also approve dates that do not conform with the general rule, if it is satisfied that the dates are consistent with the national gas objective and the revenue and pricing principles.[673]

14.7.2 ActewAGL's proposal

ActewAGL proposes a review submission date of 30 June 2014 and a revision commencement date of 1 July 2015.[674]

14.7.3 AER's analysis and considerations

ActewAGL appears to rely on the last revision commencement date as the starting point for calculating the four years after which a review submission is due. The review submission date should fall on 1 July 2014.[675]

Conclusion
The AER is satisfied that the review submission date of 30 June 2014 proposed by ActewAGL is consistent with the national gas objective and the revenue and pricing principles and accordingly approves this date in accordance with r. 50(4) of the NGR.

14.8 Acceleration of review submission date triggers

14.8.1 Regulatory requirements

The review submission date may advance to an earlier date than that fixed in the access arrangement if the access arrangement provides for acceleration on the occurrence of a trigger event and this event occurs. Rule 51(2) of the NGR provides examples of possible trigger events. The AER may insist on the inclusion of trigger events and may specify the nature of the trigger events.

669 NGR, r. 49.

670 NGR, r. 48(1)(i) and r. 49(1)(b).

671 NGR, r. 50(1).

672 NGR, r. 50(2). The AER has no discretion under r. 50(2) of the NGR. See r. 50(3) NGR.

673 NGR, r. 50(4).

674 ActewAGL, *Access arrangement proposal*, June 2009, clauses 1.16 and 1.17, p. 2.

675 NGL, Schedule 2, cl. 28.

14.8.2 ActewAGL's proposal

ActewAGL has not included a trigger event.

The AER notes that the retail energy and gas connections frameworks are expected to be introduced in the access arrangement period. These frameworks may impact the terms and conditions of access for users and potential users, such as the credit support provisions proposed under the National Customer Energy Framework. In these circumstances the AER considers that a trigger event should be included to enable the AER to review the approved terms and conditions of access for consistency with the arrangements proposed under these new frameworks.

Therefore the AER requires ActewAGL to amend its access arrangement proposal as outlined in amendment 14.17.

Conclusion
In accordance with r. 51(3) of the NGR, the AER requires ActewAGL to:

Amendment 14.16: amend the access arrangement proposal to include a new part with the following:

> The revisions submission date stated in clause 1.16 of this Access Arrangement will advance on the occurrence of a Trigger Event described below.
>
> For the purposes of the provision above, a "Trigger Event" occurs if:
>
> (a) there is an amendment to the National Gas Law or the National Gas Rules; and
>
> (b) the Relevant Regulator provides ActewAGL with a notice stating that the amendment described in (a) affects this Access Arrangement.
>
> The new revisions submission date will be the date which is the earlier of six Months from the date of the notice provided by the Relevant Regulator under (b) above and the original revisions submission date stated in clause 1.16 of this Access Arrangement.

14.9 Summary

ActewAGL has not proposed to distinguish in its treatment of extensions and expansions. The AER does not consider this appropriate and requires ActewAGL to amend the access arrangement proposal to distinguish in its treatment as follows.

The AER requires ActewAGL to state that low and medium pressure pipeline extensions will be covered by default and that ActewAGL will apply to the AER for a decision regarding whether or not an extension to a high pressure pipeline will form part of the covered pipeline and accordingly be subject to the access arrangement. The AER requires ActewAGL to report annually (within 20 business days) of completion of its financial year all extensions commenced that year.

The AER accepts that expansions of pipeline capacity should be covered by default by the access arrangement subject to the AER being notified that the expansion has occurred. Again, the AER requires ActewAGL to report annually (within 20 business days) of completion of its financial year all extensions commenced that year.

A. Confidential–Averaging period

B. WACC parameters

B.1 Equity beta, market risk premium and debt risk premium

The AER has assessed the gas network distribution access arrangement proposal of ActewAGL in respect of the WACC parameters for equity beta, market risk premium and debt risk premium.

Formula specification
This section of the appendix defines the mathematical formula used by the network service providers to estimate the rate of return for the access arrangement period.

B.1.1 Weighted average cost of capital

ActewAGL implements the standard WACC formula as follows:

$$WACC = k_D \times \frac{D}{V} + k_E \times \frac{E}{V}$$

where:

- k_D is the return on debt
- k_E is the return on equity
- D is total debt
- E is total equity
- V is (D + E), i.e. total debt plus total equity.

This is presented as a *nominal vanilla WACC*,[676] which involves presentation of a pre-company-taxation cost of debt calculation and a post-company-taxation, but pre-personal-taxation cost of equity calculation.[677] The AER considers that this reflects the benchmark basis on which the cost of capital is determined.

The AER notes that this requires consistent cash flow definitions and explicit cash flow calculations dealing with:[678]

- the debt shield, i.e. the reduction in tax payments as a result of interest payments
- imputation effects, i.e. prepayment of personal taxes at the business level

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676 N. Hathaway, *Imputation WACCs: Descriptions and Numerical Valuation Comparisons*, 2004, viewed 21 July 2009, <http://www.capitalresearch.com.au/downloads/WACC_descript.pdf>.

677 Further detail on this implementation of WACC (and its relationship to other specifications of the WACC formula relevant in a tax imputation environment) is contained in R. Officer, 'The cost of capital of a company under an imputation tax system', *Accounting and Finance*, 1994, vol. 31, pp. 1–17.

678 R. Officer, 'The cost of capital of a company under an imputation tax system', *Accounting and Finance*, 1994, vol. 31, pp. 6–8.

- final taxation costs to the business, i.e. the provision of a separate 'building block' component equal to the modelled tax liabilities.

For clarity, gamma does not directly appear in the WACC formula but is used in the estimation of taxation in the PTRM.[679]

The NGR refers to the WACC as an example of a 'well accepted approach' that incorporates the cost of equity and debt to determine the rate of return on capital.[680] The AER considers that the WACC is a well accepted approach that incorporates the required return for different sources of funding and the overall required return for a project or business.

B.1.2 Cost of equity

ActewAGL estimates the return on equity using the Sharpe–Lintner capital asset pricing model (CAPM) as follows:

$$k_E = r_f + \beta_E \times MRP$$

where:

- k_E is the return on equity
- r_f is the risk-free rate
- β_E is the equity beta of the benchmark business
- MRP is the market risk premium, i.e. $(r_m - r_f)$ where rm is the return on the market portfolio.

The NGR refers to the CAPM as an example of a 'well accepted financial model' to be used to determine the rate of return on capital.[681] The AER considers that the CAPM is a well accepted model that takes into account the expected return of an individual entity and the level of systematic (i.e. non-diversifiable) risk faced by that entity in accordance with r. 87 of the NGR.

B.1.3 Cost of debt

ActewAGL calculates the return on debt using the following formula:

$$k_D = r_f + DRP$$

where:

- k_D is the return on debt
- r_f is the risk-free rate

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679 ActewAGL, *Access arrangement information*, June 2009, section 8.1.3, p. 148.

680 NGR, r. 87(2)(b).

681 NGR, r. 87(2)(b).

- DRP is the debt risk premium.

The debt risk premium is the difference between the risk-free rate and the corporate bond rate. Accepted regulatory practice is to assume the benchmark corporate bond has a term to maturity equal to that used to derive the nominal risk-free rate and an appropriate credit rating from a recognised credit rating agency. The AER considers that this approach produces the best estimate of the cost of debt that is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services, as required by the NGR.[682]

B.2 Equity beta

The equity beta measures the standardised correlation between the returns on an individual risky asset or business with that of the overall market. It represents the 'riskiness' of the business' returns compared with that of the market. Risk results from the possibility that returns will differ from expected returns—the greater the uncertainty around the returns of a business, the greater its level of risk.

B.2.1 ActewAGL's proposal

ActewAGL submits a report by CEG that proposes two arguments for why a gas and electricity equity beta determined in the WACC review (0.8):[683]

- the AER itself indicated in the WACC review that gas businesses have a higher business risk than electricity businesses,[684] and

- volatility on a number of business measures (cash flow, revenue and customer numbers) is higher for gas businesses than for electricity businesses. This volatility is indicative of the greater risk facing gas businesses when compared to electricity businesses, and therefore an equity beta higher than 0.8 should be applied.[685]

Additionally, the CEG report proposes two arguments for a gas equity beta that is equal to or above the market average (by definition 1.0):

- the Sharpe–Lintner CAPM incorrectly predicts risk–return relationships (compared to empirical data) for all equity beta values other than 1.0. Therefore, a beta of 1.0 should be applied,[686] and

- the dividend growth model (DGM) projects both the market risk premium and the gas specific equity risk premium and can thereby be used to infer an equity beta. The equity risk premium is higher than the market risk premium, and therefore an equity beta of greater than one should be applied.[687]

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682 NGR, r. 87(1).

683 CEG, *The market risk premium and relative risk for ActewAGL: A report for ActewAGL*, June 2009.

684 CEG, *MRP and relative risk for ActewAGL*, June 2009, section 4.3.1, pp. 36–37.

685 CEG, *MRP and relative risk for ActewAGL*, June 2009, section 4.3.2, pp. 37–39.

686 CEG, *MRP and relative risk for ActewAGL*, June 2009, section 4.1, pp. 29–32.

687 CEG, *MRP and relative risk for ActewAGL*, June 2009, section 4.2, pp. 33–34.

B.2.2 AER's analysis and considerations

The AER notes that there are several issues raised in the CEG report which support the ActewAGL's proposal for an equity beta higher than 0.8 and these are addressed below.

Gas and equity betas
The AER notes that the equity beta needs to be considered on an industry or sector specific basis. However, the AER observes that the benchmark gas distribution service provider operates in a regulated environment that includes a number of features common to the electricity service providers considered in the WACC review.[688] These features include:[689]

- The tariff variation mechanism allows for the annual adjustment for inflation, lowering exposure to inflation risk.
- The roll forward of the capital asset base occurs in a manner that lowers exposure to cost overruns for capital expenditure.
- The pass through mechanism allows for external environmental changes to be passed on to consumers, lowering exposure to such change.

Each of these factors lowers exposure to systematic risk, relative to the unregulated competitive business. Additionally, the benchmark gas distribution service provider has the same level of financial leverage as the benchmark electricity business (60 per cent gearing), ensuring that the effect of leverage on equity beta is similar.[690]

Importantly, many of the WACC review arguments concerning the selection of close comparator businesses to the benchmark efficient electricity business are relevant in reverse.[691] The AER observes that there is no exact real world equivalent for the conceptual benchmark, even among businesses that only transport gas. The AER therefore makes an estimate based on a range of observed businesses that have characteristics of the conceptual benchmark and together form a reasonable proxy. The AER begins with the closest available match to the conceptual benchmark, and expands the sample set to include other businesses until a reasonably sized sample is obtained. Although the AER considers that pure gas network businesses provide the closest match to the conceptual benchmark, obtaining sufficient data for estimating the equity beta requires the sample to be expanded to include other energy

688 The AER considers that the conceptual definition of the benchmark efficient gas network service provider is a 'pure play' regulated gas network business operating within Australia without parent ownership. This definition mirrors the definition of the benchmark electricity network service provider in the WACC review. AER, *Final decision: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters*, 1 May 2009, pp. 79–82.

689 AER, *Final decision: WACC review*, 1 May 2009, pp. 249–250.

690 The AER notes the particular details of the assessment of 'financial risk' for the benchmark efficient business; see AER, *Final decision: WACC review*, 1 May 2009, pp. 250–254.

691 AER, *Final decision: WACC review*, 1 May 2009, pp. 104–109, 257–260.

transportation businesses.[692] Electricity businesses are close, but not perfect, comparators for the benchmark gas business.[693]

There are strong conceptual grounds for concluding that the asset beta for gas network businesses is significantly less than the asset beta of the market portfolio. Moreover, after accounting for the gearing ratio, the equity beta for gas network businesses is still likely to be less than the market average equity beta (by definition, 1.0). Rule 74(2) of the NGR requires that a forecast or estimate is arrived at on a reasonable basis and is the best estimate possible in the circumstances. The AER therefore seeks objective empirical evidence to determine the equity beta of the efficient benchmark service provider.

The AER considers that the empirical evidence presented in the WACC review contains the best available estimate of the equity beta that would apply to a gas distribution network service provider.[694] Although the WACC review was conducted in an electricity context, gas and electricity businesses are close comparators. Further, the sample set of data used to derive the equity beta is predominantly made up of gas businesses. The sample in the WACC review provides a value for gas equity beta of between 0.4 and 0.7. Therefore, an equity beta of 0.7 provides the service provider with an opportunity to recover at least its efficient costs incurred in providing reference services and meeting regulatory requirements.[695] However, the AER also has considered the need for regulatory certainty and adopting a conservative approach in this particular matter, commensurate with prevailing market conditions and the risks involved in providing reference services. Therefore, the AER considers that a value of 0.8 provides a best estimate of the equity beta.

Consideration of sector specific volatility

The CEG report outlines that a gas business bears a greater risk than an equivalent electricity business and therefore requires a higher equity beta.[696] To justify this claim, the CEG report compares the gas and electricity business of ActewAGL and demonstrates higher volatility on a number of key business measures (cash flow, revenue and customer numbers) for the gas component of ActewAGL.[697] The CEG report concludes: [698]

> In summary, the available evidence on the variability of the number of gas and electricity customers (and the cash flow from those customers) suggests that the asset (and therefore equity) beta for gas distributors may be higher than for electricity operations (in the order of 10% higher).

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692 The AER notes that it may be necessary in some circumstances to include a wider range of businesses (for example, general utility or capital-intensive infrastructure businesses). In particular, see figure 4.1 at AER, *Final decision: WACC review*, 1 May 2009, pp. 106–109.

693 The AER notes that similar reasoning applies to the consideration of businesses with parent support (since the benchmark business is a stand alone entity). For clarity, this statement assumes that all businesses are stand alone.

694 AER, *Final decision: WACC review*, 1 May 2009, pp. xv–xviii, 239–292, 343–361.

695 NGL, s. 24(2).

696 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraphs 106–119, pp. 35–39.

697 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraphs 110–118, pp. 37–39.

698 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 118, p. 39.

The AER notes that similar arguments based on volatility comparisons between gas and electricity businesses were submitted by ActewAGL in its previous regulatory decision by the ICRC, and that the ICRC concluded: [699]

> …that there is no compelling evidence that gas deserves a higher beta than electricity.

The AER has fundamental concerns with the CEG report's conclusion that gas businesses require a higher equity beta than electricity businesses because of volatility. The equity beta set by the AER reflects the exposure of a benchmark efficient service provider's returns to macroeconomic risk factors (i.e. non-diversifiable, systematic risk), and not the business risk faced by any particular individual service provider. The CEG report makes three assumptions, and these are addressed below in turn.

First, the AER considers that caution must be exercised in generalising from an observed aspect of a particular individual distribution network service provider to the benchmark efficient business. The CEG report assumes that the business specific circumstances of ActewAGL reflect an efficient benchmark service provider. The AER considers that a larger data set provides a better basis for a statistically valid conclusion. In particular, it notes that the key calculation of standard deviation from the CEG report, used to justify the claim that a gas equity beta is 10 per cent above an electricity equity beta, rests on an analysis of *one* company only. [700]

Second, the AER considers that the majority of the business measures presented by ActewAGL, both in the CEG report and in a separate confidential appendix, do not closely reflect ActewAGL's return. The business measures presented include graphs (but not actual figures) of:

- deviation in actual revenues (per cent deviation from expected revenues, monthly) for ActewAGL [701]
- cash inflow ($million, quarterly) for ActewAGL [702]
- variation in cash inflow (per cent change, from the same quarter the previous year) for ActewAGL, [703] and
- variation in earnings before taxation (EBT) (per cent change, from the same quarter the previous year) for ActewAGL. [704]

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699 The AER notes that in this decision the ICRC applied an equity beta of between 0.9 and 1.09; however, the consideration of volatility arguments refers only to the relative risk between electricity and gas, and so is appropriate here. ICRC, *Final decision: Review of access arrangement for the ActewAGL natural gas system in Canberra, Queanbeyan and Yarrowlumla*, October 2004, p. 185 (ICRC, *Final decision: ActewAGL natural gas system*, October, 2004).

700 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraphs 114–115, p. 38.

701 CEG, *MRP and relative risk for ActewAGL*, June 2009, figure 9, p. 39.

702 ActewAGL, *Access arrangement information*, 30 June 2009, appendix L2, figure 1, p. 1.

703 ActewAGL, *Access arrangement information*, 30 June 2009, appendix L2, figure 2, p. 2; CEG, *MRP and relative risk for ActewAGL*, June 2009, figure 8, p. 38.

The CEG report indicates it also analysed (but does not present graphs for):

- customer numbers for ActewAGL, and
- net cash flow for ActewAGL.[705]

These business measures are several steps removed from the final profit of the business and therefore the return to shareholders. For example, fluctuations in cash inflow needs to be considered in the context of cash outflows, and then in the context of changes in non-cash inflows and outflows (accounts receivable and payable). Only one of the measures presented, EBT, could be considered representative of the service provider's returns.

Third, the AER considers that greater volatility in the business measures can not be conclusively attributed to systematic risk, and may plausibly reflect an entirely business specific risk that requires no compensation through the equity beta. To link volatility and equity beta, the CEG report assumes that electricity and gas businesses have the same exposure to systematic risk, consistent with gas and electricity having the same equity beta.[706] It then observes greater volatility in the business measures for gas relative to electricity, and concludes that gas should therefore have a higher equity beta. The key statement is:[707]

> Other things being equal, the beta will be positively related with the covariance of divergences from the expected cash flows and/or number of customers with the level of economic activity.

The AER notes that the CEG report does not present any direct evidence of the covariance of divergence from expected cash flows with the level of economic activity. In its report, CEG does not investigate the relationship between certain business measures (variation in cash inflow, deviation from expected revenues, net cash flow) and economic activity. The exception is a single correlation between number of customers and economic activity;[708] although this does not support a higher equity beta for gas since *electricity* has the higher correlation.[709] Rather than present any direct evidence, the CEG report states that the presentation of volatility itself provides indirect evidence since it will be 'positively related' to the relationship it seeks to prove.[710] This positive relationship has not been empirically demonstrated in the CEG report.[711] There may be no relationship, or alternatively, the relationship may be positive but of such a low magnitude that it has no consequential effect on the

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704 ActewAGL, *Access arrangement information*, 30 June 2009, appendix L2, figure 3, p. 3.

705 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraphs 114–115, p. 39; ActewAGL, *Access arrangement information*, 30 June 2009, appendix L2, p. 3.

706 CEG states: 'This conclusion is only valid to the extent that gas and electricity customers do have the same correlation with the market.' CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 116, p. 38.

707 CEG, *MRP and relative risk for ActewAGL*, June 2009, p. 37, paragraph 110.

708 The AER considers that final consumer chain demand in the ACT, while having moderate relevance as an indicator of economic activity, is a poor proxy for market return, which would be the preferred end measure for investigating a beta relationship.

709 The AER observes that there is no investigation of whether these two values are statistically equivalent.

710 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 110, p. 37.

711 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 110, p. 37.

equity beta. The AER considers that higher volatility may simply represent higher business specific risk.[712]

Further, even if the argument about volatility held (noting that the AER does not consider this to be the case) the proposed difference between the gas and electricity equity betas is estimated to be 10 per cent.[713] The AER notes that the most reliable estimate of a gas equity beta from the WACC review is between 0.4 and 0.7.[714] Even at the top of this range, this would only increase the equity beta for gas from 0.70 to 0.77. In determining a gas equity beta of 0.80, consistent with the electricity equity beta applied in the WACC review, the AER is providing an allowance greater than the difference suggested by the CEG report.[715] As such, the efficient network service provider has sufficient opportunity to recover its costs.

Finally, the statistical tests to support the volatility projections have not been provided. When a similar argument was previously presented by ActewAGL, the ICRC detected significant co-integration amongst the variables, such that the results were statistically meaningless.[716] The CEG report does not appear to have undertaken such statistical analysis. However, the AER considers that there are sufficient grounds (detailed above) to reject this argument independent of any such numerical analysis.

AER statements on higher business risk for gas

The CEG report points to several statements made by the AER in its WACC review that gas businesses have higher risk than electricity businesses.[717] Two of these statements are taken from discussion on the credit rating for the benchmark business:

> However, the AER was also aware that gas network businesses may be exposed to higher business risk than electricity network businesses leading to a downwards bias in the credit rating relative a benchmark NSP.[718]

> The AER acknowledges that gas network businesses with similar financial credit metrics to electricity network businesses may have lower credit ratings.[719]

The remaining statement is taken from discussion on equity beta for the benchmark business:

> As discussed in sections 4.4 and 8.5.2, the AER is aware that the presence of gas businesses may result in a conservative estimate of the equity beta for electricity network businesses. This is based on a view that regulated gas businesses may have a higher level of business risk arising from such factors

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712 This statement does not imply that the AER necessarily accepts that higher volatility in business measures reflects higher volatility in business returns. The possible inaccuracy of these proxies is discussed above.

713 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 118, p. 39.

714 AER, *Final decision*: WACC review, 1 May 2009, p. 326.

715 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 118, p. 39.

716 ICRC, *Final decision: ActewAGL natural gas system*, October 2004, pp. 184–185.

717 CEG, *MRP and relative risk for ActewAGL*, June 2009, section 4.3.1, pp. 36–37.

718 AER, *Final decision: WACC review*, 1 May 2009, p. 107, cited by CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 107, p. 36.

719 AER, *Final decision: WACC review*, 1 May 2009, p. 371, cited by CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 108, p. 36.

> as higher volume risk. This contrasts with the ACG's view that that gas and electricity networks have a similar level of systematic risk. Further, as discussed in section 4.4 the AER considers that gas businesses are a close but not perfect comparator which can be used when there are an insufficient number of closer comparator businesses.[720]

The AER considers that several statements it made in the WACC review require clarification, since these statements did not sufficiently distinguish between exposure to business specific risk and exposure to systematic risk.[721] This clarification is required because only the latter risk is relevant to equity beta. The Sharpe–Lintner CAPM postulates that the diversified investor does not need compensation for business specific risk. The investor chooses a portfolio so that the downside risk for one business is offset by upside risk for other businesses. This means that over time only the market risk, which cannot be diversified (systematic risk), matters. The equity beta in this decision therefore reflects the expected return an investor would require to add the benchmark gas business to a well diversified portfolio. It should be noted, however, that not all businesses have equal exposure to systematic risk. Therefore, different businesses have different equity beta values.

The AER observes that one of the primary drivers of business specific risk for a gas distribution network business is volume risk. Volume risk arises because gas is used for specific purposes (e.g. heating) and so volumes are dependent on weather trends that may deviate substantially from average expectations. There are also technological impacts (e.g. improvements in the efficiency of appliances) that may alter usage volumes.

The implications of business specific risk vary depending on the WACC parameter under consideration.

The AER considers that there are grounds for including business specific risk (in particular, cash flow volatility) when determining the credit rating for the benchmark business. Credit rating agencies are concerned with the ability of the business to cover its regular interest payments, so month to month volatility in cash flow and revenue may be a relevant consideration. The exact rating methodology used by agencies is proprietary. Nonetheless there are a number of financial indicators that have more impact on credit rating (for example, the gearing ratio). However, ActewAGL has proposed a BBB+ credit rating, and the AER considers this is an appropriate best estimate for the benchmark efficient service provider, commensurate with prevailing market conditions.

However, there are no grounds for including business specific risk when determining the equity beta. The AER accepts that gas has greater volume risk (e.g. arising from weather fluctuations) but the degree to which volume risk represents business specific risk or systematic (market wide) risk is not yet settled. The AER notes the nature of its previous statements on business risk ('regulated businesses *may* have a higher level

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720 AER, *Final decision: WACC review*, 1 May 2009, pp. 257–258, cited by CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 108. pp. 36–37.

721 AER, *Final decision: WACC review*, 1 May 2009, pp. 107–108, 257–258, 260, 371.

of business risk') and takes this opportunity to clarify that at no point did it intend to imply that business specific risk should be compensated for in the equity beta.[722]

The AER notes that in setting a value for the equity beta slightly higher than the empirical estimates, it allows for any uncertainty over the role volume risk plays in influencing exposure to systematic risk. For example, setting an equity beta of 0.8 allows a buffer over the empirical estimates of the equity beta from the WACC review (between 0.4 and 0.7).[723] The AER considers that such a conservative approach ensures that the network service provider has the opportunity to recover at least its efficient costs, in accordance with s. 24 of the NGL.

Empirical estimation of equity beta from historical returns
Where there is sufficient market data, the primary method for determining an equity beta is to calculate the historical correlation between return on a particular share (or set of shares) and return on the market.

The AER notes that methodological issues are an important consideration when estimating the equity beta from historical share returns. The AER has determined the appropriate methodology to ensure that the best estimate for beta is arrived at on a reasonable basis with reference to the prevailing conditions and the risks involved in providing reference services. The AER has previously stated its preference for the use of:

- continuous returns rather than discrete returns[724]
- a standardised approach to de-levering and re-levering[725]
- point estimates rather than confidence intervals[726]
- data that includes 'unrepresentative' periods, subject to close examination,[727] and

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722 AER, *Final decision: WACC review*, 1 May 2009, pp. 107, 108, 257–260.

723 This range includes both individual and portfolio equity beta estimates for gas businesses and close comparators considered in the WACC review. The individual estimates (between 0.45 and 0.71) include O. Henry and ACG results using ordinary least squares (OLS) and least absolute deviation (LAD) statistical techniques; see AER, *Final decision: WACC review*, 1 May 2009, pp. 317–318. The preferred portfolio equity beta estimates (between 0.41 and 0.68) include the period post 'technology bubble', using both O. Henry and ACG results and both LAD/OLS statistical techniques; see AER, *Final decision: WACC review*, 1 May 2009, pp. 321–324.

724 AER, *Final decision: WACC review*, 1 May 2009, pp. 264–265; also AER, *Explanatory Statement: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters*, December 2008, Table 8.3, pp. 199–200 (AER, *Explanatory statement: WACC Review*, December 2008).

725 AER, *Final decision: WACC review*, 1 May 2009, pp. 265–267.

726 A confidence interval is the statement that the true value for an unknown parameter lies within an upper and lower bound with a given percentage probability. By contrast, a point estimate gives a single estimate for the true value of an unknown parameter with a stated standard error indicating precision. See AER, *Final decision: WACC review*, 1 May 2009, pp. 288–291.

727 The AER notes that some analysts label as unrepresentative the 'technology bubble', the 'mining boom', and the 'global financial crisis'; exclusion of each of these periods would leave almost no data from the last 15 years. See AER, *Final decision: WACC review*, 1 May 2009, pp. 270–271, 274–275.

- both long and short estimation periods, striking a balance between statistical precision and data relevance.[728]

In order to determine the best estimate of equity beta for the benchmark efficient service provider, the AER considers benchmark levels of efficiency, gearing and other financial parameters of a number of businesses.

In the WACC review the AER established a sample of Australian businesses, comprising gas network businesses; electricity network businesses; network businesses active in both electricity and gas; and utility businesses more generally.[729]

The AER considers that this data set remains the best comparator set. In particular, the sample of businesses established by Associate Professor Henry of the University of Melbourne, acting as a consultant to the AER, includes the five gas businesses used in the CEG report to estimate equity beta using the DGM (discussed in detail below). The inclusion of electricity-only businesses in this sample of business does not distort (i.e. make less conservative) the estimate of equity beta. Although the electricity-only business (Spark Infrastructure) has an equity beta higher than the average of the portfolio, exclusion of this business would not materially change the equity beta estimate. Nonetheless, the AER considers that as the electricity-only business is a close comparator, the comparator set is best considered as a whole.

The comparator set indicates that the equity beta of a benchmark efficient gas network service provider is between:

- 0.45 and 0.71 (average of individual re-levered equity beta point estimates, 2002–03 to 2008, weekly/monthly observations)[730]
- 0.49 and 0.69 (average of individual re-levered equity beta estimates, 1990–1998 and 2002–03 to 2008)[731]
- 0.55 and 0.68 (median re-levered time-varying equal weighted portfolio equity beta estimates, 2002–03 to 2008, monthly observations),[732] and
- 0.43 and 0.58 (median re-levered time-varying equal weighted portfolio equity beta estimates, 2002–03 to 2008, weekly observations).[733]

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728 AER, *Final decision: WACC review*, 1 May 2009, pp. 271–275; also AER, *Explanatory statement: WACC review*, December 2008, pp. 208–209.

729 AER, *Final decision: WACC review*, 1 May 2009, p. 255.

730 AER, *Final decision: WACC review*, 1 May 2009, Table 8.5, p. 318; also O. Henry, *Estimating beta: Report submitted to ACCC*, 23 April 2009.

731 AER, *Final decision: WACC review*, 1 May 2009, p. 318, Table 8.6; also ACG, *Beta for regulated electricity transmission and distribution: Report to Energy Networks Association, Grid Australia and Australian Pipeline Industry Association*, 17 September 2008, pp. 42–44; and ACG, *Australian Energy Regulator's draft conclusions on the weighted average cost of capital parameters: Commentary on the AER's analysis of the equity beta, Report to Energy Networks Association, Grid Australia and APIA*, January 2009, pp. 22–23.

732 AER, *Final decision: WACC review*, 1 May 2009, Table 8.10, p. 324; also Henry, *Estimating beta*, April 2009.

The AER therefore considers, consistent with the WACC review, that the reasonable range of the equity beta for a gas network business of between 0.4 and 0.7 is justified on empirical information, and provides a reasonable basis for determining a best estimate.

Alternative empirical techniques

The CEG report uses the dividend growth model (DGM, also known as the Gordon Growth Model)[734] to calculate the MRP and a more specific gas sector 'equity risk premium' (ERP).[735] In its report, CEG compares the two figures and concludes that since the MRP is 8.9 per cent and the ERP is 14.6 per cent, the forward looking estimate for equity beta must be equal to or greater than one.[736]

CEG submitted a similar calculation for arriving at the equity beta to the AER WACC review, which the AER did not consider to be persuasive.[737] The CEG report builds on the previous work by using a 'company by company' short-term dividend forecast and presenting a more up-to-date sample of data, and presents some sensitivity analysis.[738] However, the AER does not consider that it addresses any of the principal criticisms presented in the WACC review, including:[739]

- there is no consideration of a service provider's free cash flow (as opposed to dividends). The AER concurs with Associate Professor Handley that in the absence of information concerning free cash flow, the DGM is an inappropriate model to use

- there is a lack of transparency regarding analyst forecasts. Although Bloomberg is cited as the source, there is no indication of the number of analysts consulted or the distribution of forecasts for each share, and

- inconsistent timing assumptions are applied across the model, with share weights based on one day (4 June 2009), market capitalisation across two months, the risk-free rate averaged over 20 days and analysts' forecasts across at least 1 April to 4 June 2009.

Further, the approach detailed in the CEG report is subject to the following inherent difficulties with DGM analyses:

- the assumption that markets are perfectly priced, and

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733 AER, *Final decision: WACC review*, 1 May 2009, Table 8.10, p. 324; also Henry, *Estimating beta*, April 2009.

734 M. J. Gordon, 'Dividends, Earnings and Stock Prices', *Review of Economics and Statistics*, 1959, vol. 41, pp. 99–105.

735 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraphs 97–105, pp. 33–35.

736 Implicitly, this comparison uses the equation MRP × β_E = ERP. However, CEG does not attempt to calculate an equity beta (for example, an MRP of 8.9% and an ERP of 14.6% would require a $\beta_E \sim 1.6$) but merely conclude that the equity beta is greater than or equal to 1. See CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 101, p. 34.

737 AER, *Explanatory statement: WACC review*, December 2008, pp. 248–251.

738 CEG, *MRP and relative risk for ActewAGL*, June 2009, section 3.4, pp. 20–22.

739 AER, *Final decision: WACC review*, 1 May 2009, pp. 216–220.

- it is highly sensitive to small changes in inputs.[740]

The CEG report states that this methodology 'provides a direct estimate' of the equity beta.[741] The AER concludes that it is an indirect estimate, dependent on the relative values of two highly variable projections, and therefore receives little weight in determining an equity beta. Further, the AER observes that the CEG report's conclusion (based on the DGM analyses) that the equity beta is greater than 1.0 is inconsistent with the conceptual considerations discussed previously.

The accuracy of the Sharpe CAPM beta

The CEG report observes the replicated empirical finding that actual market returns:[742]

> …are less sensitive to beta than predicted by the Sharpe CAPM formulation. That is, the Sharpe CAPM overestimates the sensitivity of equity returns to beta and will underestimate the required returns set in capital markets on stocks with equity betas of less than 1.0.

The CEG report notes that its own empirical investigation on recent Australian data (following the method of Fama and Macbeth) finds a similar pattern, and states that 'the estimates of beta that we do have available to us do not work well in predicting investors required returns'.[743] The CEG report concludes:

> For this reason one should exercise a great deal of caution when setting the equity beta in the Sharpe CAPM at less than 1.0.[744]

The AER notes that the same arguments were presented to the WACC review, and considers that the discussion therein responds sufficiently to the CEG submission.[745] Briefly, the AER acknowledges the body of academic literature demonstrating variation between the Sharpe–Lintner CAPM predictions and observed returns.[746] There are strong theoretical reasons why this empirical finding does not prove that the Sharpe–Lintner CAPM is incorrect—this was first demonstrated by Roll in 1977 and again by Roll and Ross in 1995, the latter being a direct response to a paper from Fama and French in 1992.[747] Despite the existence of these empirical results for more than three decades, the Sharpe–Lintner CAPM remains the dominant model used in

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740 AER, *Final decision: WACC review*, 1 May 2009, pp. 216–220.

741 CEG, *MRP and relative risk for ActewAGL*, June 2009, paragraph 97, p. 33.

742 CEG, *MRP and relative risk for ActewAGL*, June 2009, s. 84, p. 29.

743 CEG, *MRP and relative risk for ActewAGL*, June 2009, s. 93, p. 32. See also E. Fama and J. MacBeth, 'Risk, return, and equilibrium: Empirical tests', *Journal of Political Economy*, vol. 81(3), 1973, pp. 607–636.

744 CEG, *MRP and relative risk for ActewAGL*, June 2009, s. 94, p. 32.

745 AER, *Final decision: WACC review*, 1 May 2009, pp. 333–340.

746 For example, F. Black, M. Jensen and M. Scholes, 'The capital asset pricing model: Some empirical tests', in *Studies in the Theory of Capital Markets*, Jensen (ed.), New York: Praeger Publishers, 1972, pp. 79–121; Fama and MacBeth, 1973.

747 R. Roll, 'A critique of the Asset Pricing Theory's Tests; Part 1: On Past and Potential testability of the Theory', *Journal of Financial Economics*, March 1977, vol. 4, pp. 129–176. E. Fama, and K. French, 'The cross-section of expected stock returns', *Journal of Finance*, 1992, vol. 67, pp. 427–465. R. Roll, and S. Ross, 'On the cross-sectional relations between expected returns and betas', *Journal of Finance*, March 1994, vol. 69(1), pp. 101–121.

analyses rather than alternative models such as the Black, Merton and Fama–French.[748]

The AER considers there are two additional reasons why the conclusion drawn in the CEG report is not supported by available evidence.

First, the AER considers that recent academic research continues to support the Sharpe–Lintner CAPM as the best available predictor of returns from a capital asset. Work by Da, Guo and Jagannathan investigates the predictive power of the Sharpe–Lintner CAPM in the presence of real options.[749] Their conclusion is that the CAPM beta explains 81 per cent of the cross-sectional variation in average returns across ten beta sorted portfolios.[750] This is a large percentage, indicating that the Sharpe CAPM is a good predictive tool. Moreover, the additional explanatory power of the Fama–French three factor model (the primary alternative referred to by ActewAGL) is small (and statistically indistinguishable from the Sharpe CAPM).[751]

Second, the AER considers that the Sharpe–Lintner CAPM is accurate under the circumstances applying to the benchmark efficient business. The AER observes that Da Guo and Jagannathan find the Sharpe–Lintner CAPM predicts returns on implemented projects well, but does poorly in predicting the returns from real options—that is, the possibility to terminate, modify, defer or commence projects.[752] The authors explain that this is the reason why the Sharpe–Lintner CAPM does a relatively poor job of predicting share returns, since the typical business has a mixture of projects (priced correctly by the Sharpe–Lintner CAPM) and options (priced incorrectly by the Sharpe–Lintner CAPM). The AER considers that regulated benchmark businesses do not have the range of options facing the market average business. Once implemented, each project is regulated to earn the required rate of return, so new capital investment receives the same rate of return as existing assets, unlike investment options held by businesses operating in a competitive environment. Under these circumstances, the AER considers that the Sharpe CAPM is a better indicator of risk–return than alternative models or approaches to determining the cost of capital.

The AER maintains its previously stated position that the Sharpe–Lintner CAPM is a well accepted financial model for calculating the return on equity.

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748 AER, *Final decision: WACC review*, 1 May 2009, pp. 335–337.

749 Z. Da, R. Guo and R. Jagannathan, 'CAPM for estimating the cost of equity capital: Interpreting the empirical evidence', *NBER Working Paper*, April 2009 (Da et al, April 2009).

750 Da et al, April 2009, Table 2, panel D, p. 39.

751 Da et al, April 2009, pp. 18–20; see also Table 2, pp. 38–39.

752 Da et al, April 2009, pp. 9–16, 27–28.

B.2.3 Conclusion

The AER has assessed the different approaches to the estimation of the equity beta and considers that the best estimate of the equity beta for a gas distribution service provider, based only on market data, is between 0.4 and 0.7.

The AER has also considered other factors, such as the need to reflect prevailing market conditions, the risks involved in providing reference services and the importance of regulatory certainty. Although reliance on market data suggests a value of between 0.4 and 0.7, the AER concludes that a conservative approach has merit, ensuring that the efficient network service provider has the opportunity to at least recover efficient costs.[753] Therefore, the AER considers that the value of 0.8 for the equity beta for ActewAGL is the appropriate best estimate.

B.3 Market risk premium

The MRP is the expected return over the risk-free rate that investors would require in order to invest in a well diversified portfolio of risky assets. The MRP represents the risk premium investors who invest in such a portfolio can expect to earn for bearing only non-diversifiable (i.e. systematic) risk. The MRP is common to all assets in the market and is not specific to an individual asset or business.

B.3.1 ActewAGL's proposal

ActewAGL proposes an MRP of 7.5 per cent.[754] ActewAGL submits reports from CEG to support its proposed estimate of the MRP.[755]

In summary, the CEG report states:

- the current market conditions indicate that the forward looking MRP is higher than prior to the global financial crisis.
- the implied volatility from the equity index options market currently indicates high expectations of risk in financial markets, and
- the DGM based estimates of the MRP provide estimates greater than the long-term historical average.

B.3.2 AER's analysis and considerations

Current market conditions

The CEG report states that volatility in financial markets and investor perceptions of risk are at historically high levels. It quotes statements from the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD) and the Reserve Bank of Australia (RBA) in late 2008, which indicate that financial market conditions were highly volatile at that time.[756]

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753 NGL, s. 24(2).

754 ActewAGL, *Access arrangement information*, June 2009, p. 151.

755 CEG, *MRP and relative risk for ActewAGL*, June 2009.

756 CEG, *MRP and relative risk for ActewAGL*, June 2009, pp. 2–3.

The AER notes that recent statements from the OECD and the RBA indicate that financial market conditions have eased and that there are early signs of recovery in markets following the global financial crisis.

In the June 2009 world economic outlook, the OECD stated: [757]

> Financial conditions have eased in the course of the first half of 2009. An increase in risk appetite has led to a rally in stock prices and a compression in corporate bond spreads. Money market interest rates have also fallen and securities markets have posted some signs of vitality.

In the August statement on monetary policy, the RBA stated: [758]

> Over recent months, the value of international trade and global industrial production have both recorded modest gains after earlier large declines, and the extreme risk aversion seen earlier in the year has receded somewhat. Reflecting this, forecasts for world growth are being revised up for the first time in more than a year…
>
> …This improvement in the global economy has been reflected in financial markets. Equity prices are up considerably from their lows in March when risk aversion was at its peak, and credit markets have continued to improve, with many spreads back to the levels prevailing before the failure of Lehman Brothers last year. There has also been a marked pick-up in equity and debt issuance, and banks are relying less on government guarantees to raise funding…
>
> …Given the rapidly evolving international financial and economic conditions, the outlook for the Australian economy continues to be subject to considerable uncertainty, although the risks are more balanced than they have been for some time.

At the September 2009 Senate Economics Reference Committee hearing, RBA Governor Glenn Stevens stated:[759]

> Measures of business and household confidence have shown a very substantial pick-up from the low points reached earlier this year. Share prices have risen by almost half. House prices have risen rather than fallen, though commercial property prices have fallen. People are realising that, though things have been tough, the worst has not occurred and the future is looking brighter. Earlier plans for drastic cuts to capital spending look like they are being re-considered. Economic growth forecasts are being revised up. A straightforward reading of the economic outcomes would suggest that the various policy measures have been effective in supporting demand.

At its October 2009 meeting the RBA raised the overnight cash rate by 25 basis points, and the RBA Governor stated:[760]

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757 OECD, *Economic outlook no. 85, Report*, 17 June 2009, pp. 25, 29.

758 RBA, *Statement on monetary policy*, 7 August 2009, pp. 1, 3.

759 Commonwealth of Australia, Proof Committee Hansard: Senate Economics References Committee, 28 September 2009, p. E3, viewed 30 September 2009, <http://www.aph.gov.au/hansard/senate/commttee/S12463.pdf>.

760 RBA, *Statement by Glenn Stevens, Governor: Monetary Policy*, Release number 2009-23, 6 October 2009, viewed 9 October 2009, <http://www.rba.gov.au/MediaReleases/2009/mr-09-23.html>.

> Business borrowing has been declining, as companies have sought to reduce leverage in an environment of tighter lending standards. But large firms have had good access to equity capital and access to debt markets appears to be improving, helped by the better-than-expected economic conditions and increased willingness on the part of investors to accept risk. Share markets have recovered significant ground.

The AER considers that—while it may be premature to return to a long-run MRP of 6 per cent previously used—there are signs demonstrating that there has not been a permanent structural break in the MRP due to the 'global financial crisis'.[761] The AER will continue to monitor developments in capital markets to assess if the impact of the GFC has dissipated.

Implied volatility from the equity index options market

The CEG report states that implied volatility from the equity index options market indicates that investor expectations of future volatility have increased significantly following the onset of the global financial crisis.[762] In particular, the CEG report provides data published by Citigroup on 3 month options on the S&P/ASX 200 index. CEG states that the average implied volatility from 1997 to August 2008 is 17 per cent and that implied volatility increased to 41 per cent during the period from September 2008 to May 2009. The CEG report states that on 12 May 2009 the implied volatility was 31 per cent.[763]

The AER notes that Bloomberg data on ASX 200 index call options indicates that the implied volatility from 3 month, 6 month and 12 month options has fallen below 31 per cent and is approaching 20 per cent as shown in figure B.1.

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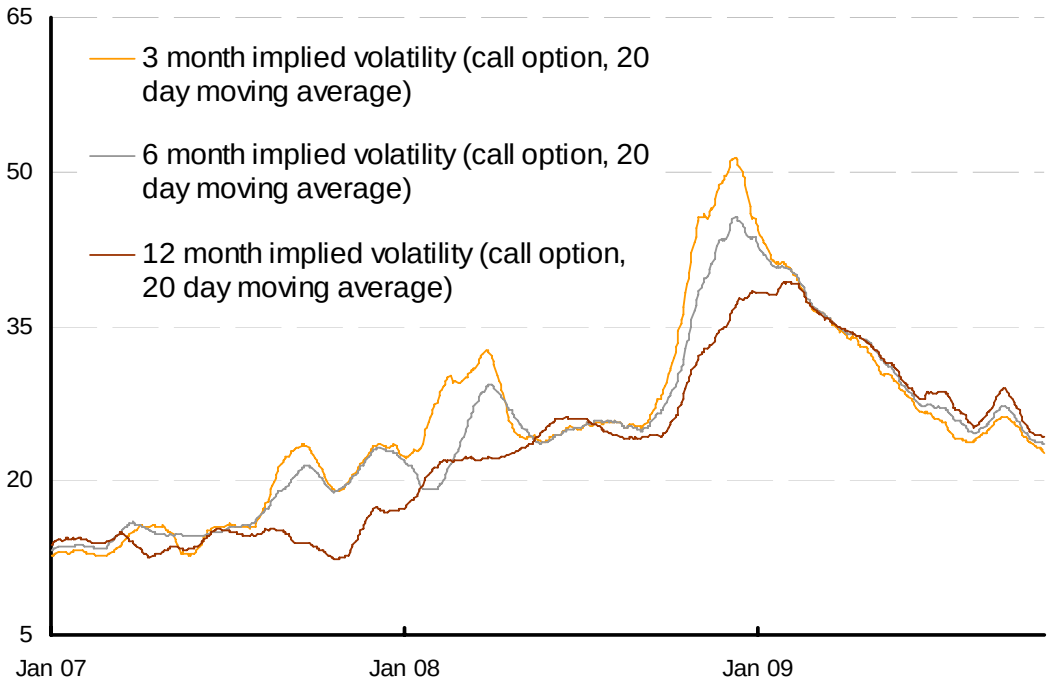
761 AER, *Final decision: WACC review*, 1 May 2009, pp. 175–238.

762 CEG, *MRP and relative risk for ActewAGL,* June 2009, pp. 7–8.

763 CEG, *MRP and relative risk for ActewAGL*, June 2009, pp. 8–9.

Figure B.1: Implied volatilities from ASX 200 index call options



Source: Bloomberg and AER analysis.[764]

The AER considers that, although implied volatility from the index options market may provide some information about current expectations of market risk going forward, this measure is highly variable. In the WACC review the AER noted that, if the MRP is expected to vary over time, then by definition current market conditions may not always completely reflect future market conditions.[765] The AER notes that implied volatility from the equity index options market appears to be declining (as can be seen in figure B.1), and it will continue to monitor developments in this area. Further, there is no evidence to demonstrate that there should be an upward adjustment in the MRP since the WACC review was concluded.

Therefore, consistent with the WACC review, the AER considers an MRP of 6.5 per cent (above the long-term historical estimate of 6.0 per cent used consistently in regulatory decisions prior to the GFC) is commensurate with prevailing market conditions and the risks involved in providing reference services.[766]

Dividend growth model based estimates of the MRP

The CEG report provides a number of forward looking MRP estimates using a DGM approach. Based on a gamma estimate of 0.65, the CEG report estimates the following:[767]

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764 A 20 day moving average has been used for illustrative purposes. However, the AER considers that it may be more appropriate to use an implied volatility based upon the same averaging period as the risk-free.

765 AER, *Final decision: WACC review*, 1 May 2009, pp. 190–191.

766 AER, *Final decision: WACC review*, 1 May 2009, p. 191.

767 CEG, *MRP and relative risk for ActewAGL*, June 2009, pp. 18–19.

- a forward looking long-run average MRP of between 8.3 and 8.9 per cent, assuming this MRP will be permanent into perpetuity

- a forward looking short run average MRP of between 13.9 and 16.7 per cent, assuming the MRP will revert to 6 per cent after 6 years, and

- a forward looking short run average MRP of 11.3 and 13.0 per cent, assuming the MRP will return to 6 per cent after 10 years.

The AER observes that a number of different assumptions have been used to derive estimates of the MRP in the CEG report:

- an adjustment to the ASX 200 index to account for 19 companies in the sample having incomplete forecasts

- an adjustment to the dividend forecast of one month to ensure that dividends are paid evenly over the 2009 financial year such that the average time to remaining 2009 dividends is one month

- long-run dividend growth rates (historical economic growth or indexed Commonwealth Government Securities (CGS)) and the mid-point of the RBA's target inflation band are used to adjust dividends into future years, and

- the risk-free rate based on yields of 10-year CGS, sampled across the period from which the forecasts are derived, will hold in perpetuity.

The AER has examined the model provided with the CEG report and observes that:

- the long-run average growth rates have been applied to dividends while short run average 10-year CGS yields have been calculated. The AER considers that, given the model is a perpetuity model, a long-run average is more appropriate[768]

- after 2009, it appears that dividends are paid in January of each year rather than each financial year, as 2010 is discounted by seven rather than 12 months and no reason is provided for this adjustment,[769] and

- dividends are modelled for 125 years rather than in perpetuity.[770]

After correcting for these issues, the AER has conducted its own DGM analysis which results in the range of forward looking estimates changing from 6 to 7.8 per cent (using average 10-year CGS yields from Bloomberg, for the period April 1991 to August 2009, of 6.9 per cent compared to 4.9 per cent). This is significantly different

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768 CEG, *The market risk premium and relative risk for ActewAGL: Attachment to CEG's DGM report*, submitted to the AER on 1 July 2009.

769 CEG, *The market risk premium and relative risk for ActewAGL: Attachment to CEG's DGM report*, submitted to the AER on 1 July 2009.

770 CEG, *The market risk premium and relative risk for ActewAGL: Attachment to CEG's DGM report*, submitted to the AER on 1 July 2009.

to CEG's results of the MRP ranging from 8.3 to 16.7 per cent. This illustrates the sensitivity of DGM based estimates of the MRP to the assumptions employed.

Movement in share prices also affects DGM based estimates of the MRP, since share prices affect dividend yields and the implied cost of equity. As can be observed from figure B.2, the ASX200 index increased in value by 8 per cent from 4 June 2009 (when the DGM analysis was conducted) to 18 June 2009, when an alternative DGM estimation was made by Bloomberg. On this date Officer and Bishop quoted a Bloomberg MRP estimate of 4.6 per cent for June 2009.[771]

Figure B.2: ASX 200 Index close: January to October 2009

Source: Bloomberg, ASX200 Index – Historical closing value – 1 January 2009 to 23 October 2009.

Since June 2009, the equity index has increased another 10 per cent relative to April 2009 and it is likely the implied cost of equity (and therefore the MRP) from the DGM analysis would show a lower MRP than that submitted in the CEG report. The AER considers that the differences between the Bloomberg and CEG estimates, the use of short or long-term averages and the increase in share prices demonstrate that the DGM analysis is particularly volatile. Therefore, the AER considers that it is difficult to place significant weight on the MRPs estimated using the DGM analysis.

In the WACC review the AER noted that the DGM based estimates of the MRP provide measures of the MRP at a specific point in time.[772] The AER considers that the MRP should be estimated based on a 10-year term assumption, consistent with the

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771 R. Officer and S. Bishop, *Market risk premium—An estimate for 2010 to 2015, Report prepared for ETSA*, 26 June 2009, p. 13. The AER notes that Officer and Bishop describe this as an 'anomalous' result, and state that it does not adjust for imputation credits.

772 AER, *Final decision: WACC review*, 1 May 2009, p. 219.

estimation of the risk-free rate. This is necessary for internal consistency within the WACC framework.[773]

The AER noted in the WACC review that, for several years prior to 2008, the MRP estimates using cash flow based measures (such as the DGM) estimated the forward looking MRP to be well below 6 per cent. However, in the interests of regulatory certainty and stability, regulators consistently did not lower the MRP and maintained an MRP of 6 per cent in their regulatory decisions.[774]

The AER also noted in the WACC review that cash flow based measures of the MRP provide highly variable forward looking estimates of the MRP and that there is a relative lack of sources of these estimates.[775] Further, the DGM relies on an assumption that markets are perfectly priced at all times and that forecast distributions accurately represent market expectations.[776]

The AER considers that due to the issues outlined above, and consistent with the findings in the WACC review, MRP estimates using a DGM approach are limited to being a useful cross-check for other measures of the MRP.

Historical estimates of the MRP

ActewAGL submits that current market circumstances differ from the historical average and that historical estimates of the MRP do not provide a reasonable basis for estimating a forward looking MRP.[777] The AER considers that the MRP should be expected to vary over time, as discussed above in relation to the implied volatility from the equity index options market.

If the MRP varies over time then current market conditions may not indicate the future MRP accurately. The AER therefore considers that to provide regulatory certainty a long-term estimate is reasonable and provides the best approach to estimating the MRP, taking into consideration prevailing market conditions and the risks involved in providing reference services.

ActewAGL also submits that a 7.5 per cent estimate of the MRP is consistent with the long-run historical average MRP estimated by Officer and Bishop for the period 1883–2007.[778] The AER noted in the WACC review that long-term historical MRP estimates that end in 2007 provide estimates of the MRP between 6.6 and 7.2 per cent. However, when this range is extended to take account of more recent information up to 2008 the MRP is estimated to be between 5.7 and 6.2 per cent.[779]

Regulatory precedent and forward looking financial market conditions

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773 AER, *Final decision: WACC review*, 1 May 2009, pp. 187–188. Although for practical reasons the MRP is estimated as a whole: MRP = expected return on the market portfolio – risk free rate.

774 AER, *Final decision: WACC review*, 1 May 2009, p. 237.

775 AER, *Final decision: WACC review*, 1 May 2009, pp. 219–220.

776 AER, *Explanatory statement: WACC review*, December 2008, p. 250.

777 ActewAGL, *Access arrangement information*, June 2009, p. 150.

778 ActewAGL, *Access arrangement information*, June 2009, p. 151.

779 AER, *Final decision: WACC review*, 1 May 2009, p. 237.

In 1998, the ACCC adopted an estimate of 6 per cent for the MRP in its gas access arrangement decisions for Transmission Pipeline Australia.[780] Also in 1998, the Victorian Office of Regulator General (ORG, now the Essential Services Commission) adopted an estimate of 6 per cent for the MRP in three separate access arrangements.[781]

All subsequent energy regulatory decisions by the ACCC and AER prior to the WACC review have adopted a point estimate of 6 per cent, or a range centred around 6 per cent for the MRP.[782]

The WACC review outlined that the best estimate of the MRP given prevailing market conditions at the time was 6.5 per cent. As noted, the MRP is a market wide parameter and is not specific to any service provider or industry. Therefore, the AER considers that the MRP estimate for a gas service provider must be consistent with the MRP estimated for electricity distribution and transmission businesses in the WACC review.

B.3.3 Conclusion

The AER considers that ActewAGL's access arrangement proposal and supporting information from the CEG report do not provide sufficient information to depart from the MRP of 6.5 per cent estimated in the WACC review.[783]

The AER considers that, prior to the onset of the global financial crisis, an estimate of 6 per cent was the best estimate of a forward looking long-term MRP. However, following the onset of the global financial crisis, estimates of the MRP rose above the 6 per cent historical estimate. This may be due to a number of scenarios, including:

- the prevailing medium term MRP is above the long-term value but will return to the long-term value
- there has been a structural break in the MRP and the forward looking MRP is above the long-term MRP based on historical estimates.

The AER notes that there are early signs of recovery in financial markets, and that this may suggest that there has been no structural break and that conditions will return to the previous long-term value. However, the AER acknowledges there is still significant uncertainty in the future outlook.

Based on these considerations and given that there is still uncertainty in the future outlook, the AER considers that an estimate of 6.5 per cent is consistent with a

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780 ACCC, *Final decision: Access Arrangement by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Principal Transmission System; Access Arrangement by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Western Transmission System; Access Arrangement by Victorian Energy Networks Corporation for the Principal Transmission System*, 6 October 1998.

781 ORG, *Final decision: Access arrangements, Multinet Energy Pty Ltd and Multinet (Assets) Pty Ltd, Westar (Gas) Pty Ltd and Westar (Assets) Pty Ltd, Stratus (Gas) Pty Ltd and Stratus Networks (Assets) Pty Ltd,* October 1998.

782 AER, *Explanatory statement: WACC review*, December 2008, pp. 8–10, 136–160, 171–180.

783 AER, *Final decision: WACC review*, 1 May 2009, pp. 175–243.

forward looking long-term estimate of the MRP, which also takes into account prevailing market conditions and risk of providing the reference services.

B.4 Debt risk premium

The debt risk premium represents the expected return above the risk-free rate that is required to compensate lenders for the risk associated with providing debt funding to the benchmark business.[784] In order to determine the debt risk premium the AER must consider the: credit rating for the benchmark business; averaging period; term of the bond; and source of the data used to determine the yield on the corporate bond.

B.4.1 ActewAGL's proposal

ActewAGL proposes that the debt risk premium should be set by taking the average of Bloomberg and CBASpectrum fair value estimates (for corporate debt with a 10-year maturity and a credit rating of BBB+) less the risk-free rate. The debt risk premium is proposed to be measured over the same averaging period as the risk-free rate.[785]

B.4.2 AER's analysis and considerations

Credit rating
ActewAGL proposes a credit rating of BBB+. This proposal is consistent with the finding of the AER's recent WACC review, which concluded that BBB+ was the appropriate credit rating for the benchmark efficient electricity business.[786]

The AER observes that the majority of sample businesses in the WACC review's credit rating analysis were involved in gas network operation, reflecting the view that gas businesses were close (but not perfect) comparators to the benchmark electricity business.[787] The AER considers that electricity businesses are close (but not perfect) comparators to the benchmark gas businesses for similar reasons.[788] Further, the AER notes that the benchmark gas distribution service provider operates in a regulated environment that includes a number of features common to the electricity service providers considered in the WACC review.[789] Additionally, as discussed in section 5.8, the benchmark gas distribution service provider is considered to have financial leverage (60 per cent gearing) that is the same level as the benchmark electricity business.

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784 The AER considers that the benchmark efficient gas network service provider is a 'pure play' regulated gas network business operating within Australia without parent ownership. This definition mirrors the definition of the benchmark electricity network service provider in the WACC review. AER, *Final decision: WACC review*, 1 May 2009, pp. 79–82.

785 ActewAGL, *Access arrangement information*, June 2009, section 8.1.5.12, p. 153.

786 AER, *Final decision: WACC review*, 1 May 2009, pp. 359–360.

787 For the unrestricted median analysis sample, 13 of 23 businesses were involved in gas networks; for the restricted median analysis sample, eight of 14 businesses were involved in gas networks; and for the best comparator analysis, three of five businesses were involved in gas networks. AER, *Final decision: WACC review*, 1 May 2009, pp. 376–392.

788 AER, *Final decision: WACC review*, 1 May 2009, pp. 371–373. See also the discussion earlier in this appendix (section B.2.2) on the construction of a comparator set, beginning with the best match for the conceptual benchmark and expanding to include sufficient comparators to form a reasonable proxy.

789 AER, *Final decision: WACC review*, 1 May 2009, pp. 361–373.

The AER considers that the empirical evidence presented in the WACC review contains the best available estimate of the credit rating that would apply to a gas distribution network service provider.[790] As such, the AER accepts ActewAGL's proposed credit rating of BBB+ for the purposes of deriving the benchmark debt risk premium.

Averaging period and term to maturity of corporate bond

ActewAGL's proposal estimates the debt risk premium based on the same averaging period and 10-year term to maturity employed for the risk-free rate. The AER considers that internal consistency between parameters in the WACC framework requires that the averaging period and maturity used to determine the return on debt be the same as that used to derive the risk-free rate. Therefore, the AER accepts that the debt risk premium should be determined with reference to the same averaging period as the risk-free rate and based on a 10-year term to maturity. Selection of the averaging period and the chosen term to maturity is discussed in the risk-free rate section of this draft decision.

Bloomberg and CBASpectrum

Arguments regarding the robustness of methods employed by Bloomberg and CBASpectrum, with respect to producing data for the debt risk premium, have been previously raised and considered by the AER (as well as other regulators).[791] Service providers, and their advisors, have argued for both Bloomberg and CBASpectrum.[792] In response to these proposals and arguments, the AER has examined the performance of estimates derived from both data sources against relevant market data.[793] This analysis has evolved to compare the fair yield estimates published by Bloomberg and CBASpectrum against observed yields for BBB+ rated bonds, with Bloomberg data proving to be more reflective of observed data.

More recently the AER's ability to determine the debt risk premium has become more difficult due to the lack of liquidity in the market for 10-year BBB+ bonds, resulting in a greater reliance on data published by Bloomberg and CBASpectrum. The lack of data for the purposes of determining yields on bonds with benchmark characteristics has also provided an opportunity for service providers to seek a debt risk premium which may be higher than the 'true' benchmark cost of debt.

While the methodologies utilised by Bloomberg and CBASpectrum have been subjected to scrutiny through the AER's recent review processes, the AER acknowledges that they are not completely transparent to stakeholders and this is a

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790 AER, *Final decision: WACC review*, 1 May 2009, pp. 390–392.

791 ESC, *Electricity Distribution Price Review 2006–10*, October 2005; ESC, *Price Determination as amended in accordance with a decision of the Appeal Panel*, 17 February 2006; ESC, *Final Decision Volume 1: Statement of Purpose and Reasons*, October 2006, pp. 366–372; AER, *Decision: Directlink Joint Venturer's application for conversion and revenue cap*, 3 March 2006, pp. 17–18.

792 See for example: Directlink Joint Venturer's, *Submission in response to the AER's draft decision of 8 November 2005*, 9 December 2005, pp. 22–24 and The Allen Consulting Group, *'A' rating debt margin differential between Bloomberg and CBASpectrum (Memorandum)*, 23 February 2006, pp. 1–8.

793 See for example: AER, *Draft decision: Powerlink Queensland transmission network revenue cap 2007–08 to 2011–12*, 8 December 2006, pp. 103–104; AER, *Decision: Directlink Joint Venturers' application for conversion and revenue cap,* 3 March 2006, pp. 211, 221; AER, *Final decision: NSW distribution determination*, April 2009, pp. 225–232.

factor subject to current consideration by regulators including the AER and IPART.[794] A fully transparent method may be preferred and developed in the future, but at present the AER relies on the fact that Bloomberg and CBASpectrum are experienced market operators who use their knowledge and expert judgement to establish best estimates.

ActewAGL submits a report from CEG that outlines the relative merits of debt risk premium estimates derived from CBASpectrum and Bloomberg. The analysis in the CEG report is performed by measuring both methodologies against a set of proposed criteria which it claims are appropriate for estimating the cost of debt. When analysing Bloomberg and CBASpectrum, CEG estimates the debt risk premium using a 'fair value estimate'. A fair value estimate is a projection of the yield for a fixed term bond of a given credit rating and maturity.[795] The CEG report outlines the issues as follows:

- Inappropriate selection of input data.
  The CEG report states that Bloomberg's fair value curve for a composite credit rating does not use data from illiquid or higher yield bonds, relies on a single data point at longer maturities, and ignores useful information from bonds with other credit ratings. In contrast, the CEG report states that CBASpectrum's fair value curve includes illiquid or higher yield bonds, and uses information from all credit ratings (and therefore all available bonds) in determining each particular fair value estimate.[796]

- Divergence between output and theory.
  The CEG report states that the Bloomberg methodology produces fair value estimates which are not consistent with financial theory. CEG states that the observed aberrations include: that fair value yields graphed across different maturities are not smooth, that spreads over CGS decrease for some long-term maturities and that all fair value estimates did not increase during the onset of the global financial crisis. In contrast, CEG observes that CBASpectrum fair yield estimates always produces a smooth, upward sloping graph of yields across maturities and that all fair value estimates increased in response to the global financial crisis.[797]

- Divergence between output and empirical evidence.
  The CEG report presents data from the recent Tabcorp floating rate bond issue (April 2009). After adjustment for coupon type (variable to fixed), and perceived risk of the underlying company (lower than the BBB+ average), the observed

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794 IPART, *Estimating the debt margin for the weighted average cost of capital*, May 2009.

795 The projection is drawn from a curve which represents the fair value estimate of bonds with a range of maturities. This curve is often referred to as the fair market curve by Bloomberg or the fair value curve by CBASpectrum. In this appendix the AER uses 'fair value curve' as a generic name for both.

796 CEG, *Estimating the cost of 10 year BBB+ debt: A report prepared for ActewAGL,* June 2009, pp. 15–19, 29–34, 25–40, 41–45 (CEG, *Cost of debt for ActewAGL*, June 2009).

797 CEG, *Cost of debt for ActewAGL*, June 2009, pp. 19–29, 46–48.

yield on the Tabcorp bond is closer to the CBASpectrum fair value estimate than the Bloomberg fair value estimate.[798]

The CEG report also raises three issues with the AER's considerations in the recent electricity determinations. These deal with whether or not Bloomberg quotes all represent actual trades, the imposition of a condition that fair value curves by CBASpectrum must not cross, and misreporting of the Babcock and Brown Infrastructure bond credit rating in CBASpectrum.[799]

As a result of its analysis against its proposed criteria, the CEG report concludes that the Bloomberg fair value estimate cannot be used as the sole reference point when setting the debt risk premium.[800] The CEG report therefore recommends the adoption of one of three alternatives:

- relying only on CBASpectrum's fair value estimates
- using a weighted average of CBASpectrum and Bloomberg fair value estimates, as long as Bloomberg was not given more weight than CBASpectrum, or
- using the yield on the recent Tabcorp floating rate bond (adjusted to a fixed term).[801]

The AER notes the three issues raised in the CEG report. It considers that they do not affect the AER's approach to comparing the Bloomberg and CBASpectrum fair value curves with observed bond yields nor the conclusions reached in the AER's recent electricity determinations.[802] For example, the AER acknowledges that a different approach to investigating the credit rating of bonds in CBASpectrum's database would have uncovered that the Babcock and Brown Infrastructure bond correctly showed the BBB+ re-rating. However, the AER notes that its incorrect reference of the CBASpectrum database not being up to date in respect of the BBB+ credit rating of the Babcock and Brown Infrastructure bond was only one factor for its exclusion from the sample of corporate bonds in the AER's recent electricity determinations. The AER considered the need to take account of the perceived credit rating by the market of the Babcock and Brown Infrastructure bond. This matter is further discussed below, as part of the AER updating its analysis on which fair value curve is appropriate to adopt for the purposes of determining the benchmark debt risk premium for this draft decision.

The AER notes that both Bloomberg and CBASpectrum generate their fair value estimates using proprietary methods. The CEG report details, at length, a comparison of what it believes to be the strengths and weaknesses of Bloomberg's and

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798 CEG, *Cost of debt for ActewAGL*, June 2009, section 4.2, pp. 49–54.

799 CEG, *Cost of debt for ActewAGL*, June 2009, paragraph 161, p. 60.

800 CEG, *Cost of debt for ActewAGL*, June 2009, paragraph 165, p. 63.

801 CEG, *Cost of debt for ActewAGL*, June 2009, paragraphs 166–169, p. 63.

802 CEG, *Cost of debt for ActewAGL*, June 2009, paragraph 161, p. 60.

CBASpectrum's methodologies. The AER considers that this analysis is flawed as the report states that: [803]

> I do not have an in-depth understanding of the current proprietary methodology that CBASpectrum uses to estimate its fair value curves (just as I do not have an in depth knowledge of Bloomberg's proprietary method).

The AER does not consider that it is appropriate that an analysis of the two methodologies be prepared without an in depth understanding of either methodology. Further, without an in depth understanding of either methodology, an analysis can only be conducted on the basis of conjecture about how the methodologies work. The AER does not consider this to be a sound basis from which to compare the Bloomberg and the CBASpectrum fair value estimates.

An example of the problems that arise from not having an in depth understanding of how either methodology works can be seen in figure four of the CEG report.[804] This figure shows fair value curves for BBB bonds on 6 May 2009 using both Bloomberg's fair value curve and an estimation of the fair value curve using an understanding of Bloomberg's methodology as described in a 2005 NERA report.[805] The curve produced using the CEG report's methodology differs significantly to the Bloomberg fair value curve. The AER considers that this confirms that the CEG report's explanation of Bloomberg's methodology for constructing its fair value curves is based on assumptions that do not reflect Bloomberg's fair value curves. This casts doubt on the analysis in the CEG report of Bloomberg's methodology and the comparison to CBASpectrum's methodology.

Further, despite the submission made in the CEG report, both Bloomberg and CBASpectrum's fair value curves did respond to the global financial crisis. The AER considers that of particular relevance are Bloomberg's BBB and CBASpectrum's BBB+ fair value curves. [806] Figure B.3 shows fair value estimates drawn from Bloomberg's BBB fair value curve and CBASpectrum's BBB+ fair value curve for a bond with a maturity equal to the average maturity of the four actual bonds shown. The figure shows that both fair value estimates moved in an upward trend, along with the observed yields on actual BBB+ bonds, during June 2007 to June 2008. Prior to June 2008, the two fair value estimates track closely to one another. From June 2008 to June 2009, the two fair value estimates differ, although Bloomberg's fair value estimate tracks more consistently with the observed bond yields.

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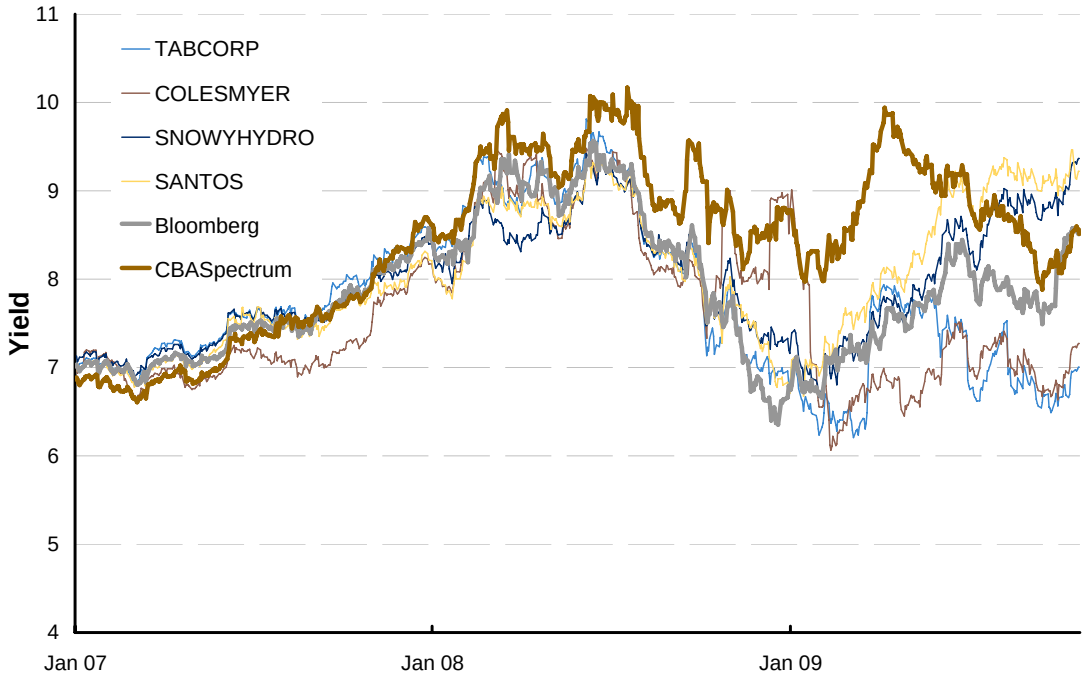
803 CEG, *Cost of debt for ActewAGL*, June 2009, paragraph 102, p. 39.

804 CEG, *Cost of debt for ActewAGL*, June 2009, figure 4, p. 23.

805 The June 2009 CEG report, *Cost of debt for ActewAGL* and the May 2005 NERA report, *Critique of available estimates of the credit spread of corporate bonds*, are written by the same author. This is noted in CEG, *Cost of debt for ActewAGL*, June 2009, p. 19.

806 Bloomberg's BBB fair yields are assumed to approximate BBB+ fair yields due to the estimation technique employed and the market being disproportionately weighted with longer term BBB+ rated bonds. Due to a lack of long-term BBB+ or similar rated bonds, Bloomberg does not report a 10-year BBB+ fair yield. The AER has derived the BBB+ 10-year fair yield by adding the spread between the A rated 8 and 10-year fair yields to the BBB+ 8 year fair yield.

Figure B.3: Bloomberg and CBASpectrum fair yields compared to observed bond yields over a period including the global financial crisis (%)



Source: Bloomberg; CBASpectrum; UBS.[807]

The AER considers that analysing the performance of the fair value estimates is appropriate in terms of r. 87 of the NGR, which sets out that the rate of return is to be commensurate with prevailing conditions in the market for funds. This is because the prevailing conditions in the market for funds are best determined through observation of market data.

The AER does not accept the CEG report's proposed criteria for selecting a data source to derive the benchmark debt risk premium.[808] The CEG report's criteria rely heavily on an understanding of the methodology used by Bloomberg and CBASpectrum, and the proprietary nature of these methods renders such an approach unreliable. The AER notes, however, that the outputs from Bloomberg and CBASpectrum can still be used even if the methodology is not clear, as they are respected providers of financial information.

The AER does not consider that the recent Tabcorp floating rate note issue presents a satisfactory source from which to determine the benchmark debt risk premium. The Tabcorp floating rate note provides only one data sample for comparison to determine whether Bloomberg, CBASpectrum or an average of the two provides the best fair value estimate for the purposes of determining the benchmark debt risk premium. Further, the Tabcorp floating rate note does not reflect many of the features required of bonds issued by an efficient benchmark business. The note does not have a term to maturity of ten years and the Tabcorp issue is based on a floating rate, not a fixed rate.

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807 Graph based on Bloomberg's BBB fair market curve, CBASpectrum's BBB+ fair value curve and UBS, *rate sheet*, 1 January 2007–23 October 2009.

808 CEG, *Cost of debt for ActewAGL*, June 2009, pp. 12–13.

Therefore, the AER does not consider it appropriate to rely on the Tabcorp floating rate note. The AER considers that a comparison to a larger number of bonds that more closely resemble the bonds issued by an efficient benchmark service provider is more reliable. Such an approach was used by the AER in the recent final decisions for the NSW and ACT electricity determinations.[809]

The AER has applied this approach in previous regulatory decisions to assess which fair value curve is appropriate for the purposes of determining the benchmark debt risk premium.[810] Its previous analysis demonstrated that Bloomberg's BBB fair value estimates outperform CBASpectrum's BBB+ fair value estimates and an average of the two at predicting observed yields when compared to a sample of a number of BBB+ rated bonds.[811] The AER considers that it is appropriate to revisit its past analysis comparing Bloomberg's BBB, CBASpectrum's BBB+ and an average of the two fair value estimates to observed bond yields as part of making its regulatory decisions. This is because the use of the most up to date information will ensure that the rate of return determined is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services, as required by r. 87(1) of the NGR.

The AER notes the CEG report's criticism of the AER's past application of this approach.[812] The AER considers that many of these criticisms are not central to the application of the approach or to its conclusions. In particular, the CEG report claims that this approach was measuring accuracy of each data service's fair value estimate relative to the lowest yield bonds in each service, not average or higher yield bonds.[813] The AER considers that this would only be the case if bonds were systematically excluded because they have a high yield, but this is not the case. The AER addresses the main criticisms of made by the CEG report below in the discussion of the process of selecting a sample of bonds.

The AER considers that a comparison of Bloomberg's or CBASpectrum's fair value estimates with a number of observed bond yields can be used to determine which fair value curve (or average of the two) provides the best possible estimate in the circumstances and is arrived at on a reasonable basis, as is consistent with r. 74(2) of the NGR. This comparative analysis compares the observed yields of a common sample of BBB+ rated bonds (with a maturity of at least 2 years) from different sources with the fair value estimates based on Bloomberg, CBASpectrum and an average of both. The difference between the observed yields and the fair value estimates are compared using the weighted sum of squared errors, which can be defined as:

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809 AER, *Final decision: ACT distribution determination*, April 2009, pp. 99–101; AER, *Final decision: NSW distribution determination*, April 2009, pp. 226–232.

810 AER, *Final decision: ACT distribution determination*, April 2009, pp. 99–101; AER, *Final decision: NSW distribution determination*, April 2009, pp. 226–232.

811 AER, *Final decision: ACT distribution determination*, April 2009, pp. 99–101; AER, *Final decision: NSW distribution determination*, April 2009, pp. 226–232.

812 CEG, C*ost of debt for ActewAGL*, June 2009, pp. 60–61.

813 CEG, *Cost of debt for ActewAGL*, June 2009, p. 60.

$$WSSE = \frac{1}{n}\sum_{i=1}^{n}\left\{\left[\sum_{j=1}^{t_i}\left(Observed_{i,j} - Fair_{i,j}\right)^2\right]\frac{1}{t_i}\right\}$$

where:

n is the number of bonds in the sample

t_i is the number of observations for the i^{th} bond

$Observed_{i,j}$ is the j^{th} observed yield for the i^{th} bond, taken from either Bloomberg, CBASpectrum or UBS

$Fair_{i,j}$ is the j^{th} fair yield for the i^{th} bond, taken from either Bloomberg, CBASpectrum.

The weighted sum of squared errors is a refinement to the measurement approaches previously used by the AER as it gives equal weight to all bonds in the sample. If the sum of squared errors is not weighted then bonds which have fewer observations will have less impact on the final calculation.

In order to conduct this analysis, the AER defines a population of bonds to observe and then selects a sample from this population. Ideally the population and sample of bonds would be the same. The AER, however, considers that bonds may be excluded from the population if there is valid reason such as a lack of available data or the yield being an outlier.

The population of bonds considered by the AER are BBB+ rated corporate bonds issued in Australia by Australian companies with observations available from Bloomberg, CBASpectrum and UBS over the averaging period and a maturity of over two years. The population is restricted to BBB+ rated corporate bonds as the AER considers that this will ensure the analysis of the performance of the fair value curves relative to observed yields is consistent with the credit rating adopted for the efficient benchmark business, which is rated BBB+. Based on these criteria, the population of bonds are as shown in Table B.1.

Table B.1: Population of BBB+ rated corporate bonds

Issuer	Maturity	ISIN
Coles Myer	25 July 2012	AU300CML1014
Snowy Hydro	25 February 2013	AU000SHL0034
GPT Group	22 August 2013	AU300GPTM218
Wesfarmers	11 September 2014	AU3CB0126860
Santos	23 September 2015	AU300ST50076
Babcock and Brown Infrastructure	9 June 2016	AU300BBIF018

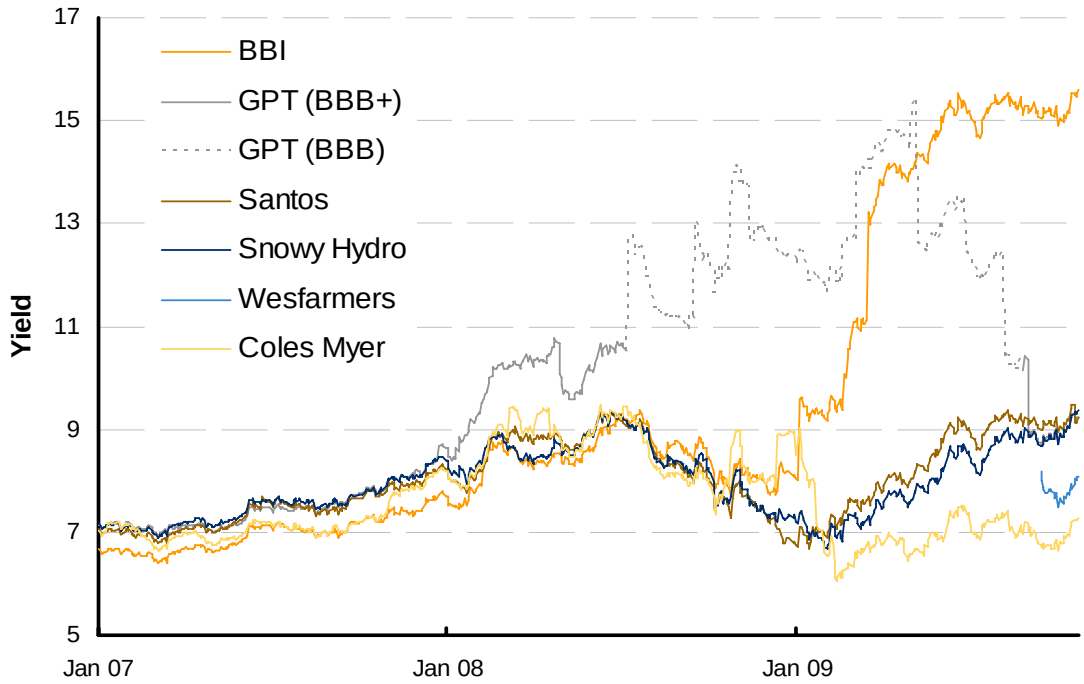
Note: These bonds meet the following criteria: BBB+ rated corporate bonds issued in Australia by Australian companies with observations available from

Bloomberg, CBASpectrum and UBS over the averaging period and a maturity of over two years. The maturities range from around two years to just under seven years.

The AER considers that the observed yields on these bonds also reflect the credit rating perceived by market participants, not necessarily the credit rating assigned by rating agencies. If there is strong evidence to suggest a divergence between the market perceived credit ratings and assigned credit ratings then the bond should be excluded from the sample. Further, to the extent that a structural break in respect of the yield of a particular bond can be identified then this is strong support for a divergence between the market perceived and assigned credit rating.[814] In such a case the yield on the bond represents an outlier in the data set and does not represent the yield on bonds issued by an efficient benchmark business. Figure B.4 shows the observed yields from a population of the BBB+ bonds.

The identification of a structural break must, initially, be made on the basis of an inspection of the data. After removing the data on GPT bond during the period it was re-rated to BBB, the AER considers that two periods present some indication of a structural break. This is the period leading up to the downgrade of the GPT bond in mid 2008 and the period beginning in early 2009 for the Babcock and Brown Infrastructure bond. The period leading up to the downgrade of the GPT bond will not be considered in the averaging period and therefore does not affect the AER analysis for this decision. However, the period identified as a possible structural break for the Babcock and Brown Infrastructure bond is included in the averaging period.

Figure B.4: Observed yields for a population of BBB+ bonds (%)



Source: UBS, *Rate Sheet*, 1 January 2007–23 October 2009.

[814] A structural break occurs when there is a significant change in the fundamental nature of time series of data such as a change in the mean or explanatory factors.

In the period from June 2006 to December 2008 the average observed yield on the Babcock and Brown Infrastructure bond was 7.5 per cent while in the period since January 2009 the average observed yield has been 13.3 per cent. The Chow test is commonly used to determine the existence of a structural break—it compares two time periods to determine if they have the same explanatory factors.[815] Based on a comparison of the average yields in these two periods, the Chow test supports the conclusion that these averages are not statistically the same.[816] This statistical analysis is further supported by market events occurring in late 2008 and early 2009 with the voluntary suspension of trading in Babcock and Brown shares and attempts to restructure the Babcock and Brown group. The entire group was therefore operating under abnormal conditions.[817] The analysis supports the conclusion of a structural break in the observed yields on the Babcock and Brown Infrastructure bond in early January 2009. This, combined with observations of market events, supports the conclusion of a divergence between market perceived credit rating and assigned credit rating.

As a result of this analysis, the AER considers that the Babcock and Brown Infrastructure bond should be excluded from the sample of BBB+ rated bonds that is used in the comparison of fair value curves to observed yields.

Yields were observed for the bonds listed in tables B.2 and B.3 over both 15 and 20 days to 23 October 2009. These yields were observed from Bloomberg, CBASpectrum and UBS.

Table B.2: Sample of BBB+ corporate bonds—observed yields and fair values over 15 business days to 23 October 2009 (%)

Issuer	Average observed yield			Average fair value	
	Bloomberg	CBASpectrum	UBS	Bloomberg	CBASpectrum
Coles Myer	7.1	7.1	7.0	8.2	8.0
Snowy Hydro	9.0	10.6	9.1	8.4	8.3
GPT	9.3	9.0	9.1	8.6	8.5
Wesfarmers	7.9	7.9	7.8	9.0	8.9
Santos	8.9	9.1	9.2	9.2	9.1

815 G. Chow, 'Tests of equality between sets of coefficients in two linear regressions', *Econometrica*, July 1960, vol. 28(3).

816 More specifically, the Chow test statistic is distributed according to the F distribution and the null hypothesis is that the two averages are the same. Given this data set, the observed F is 2141—this is a p–value much smaller than 0.001. This leads to the rejection of the null hypothesis, at any reasonable level of significance, and the conclusion that the averages are statistically different. This test does not identify the extent of a structural break and so should not be interpreted as the only criterion to apply in deciding if a bond should be excluded from the sample.

817 Babcock and Brown, *Suspension from official quotation*, 12 January 2009.

Table B.3: Sample of BBB+ corporate bonds—observed yields and fair values over 20 business days to 23 October 2009 (%)

Issuer	Average observed yield			Average fair value	
	Bloomberg	CBASpectrum	UBS	Bloomberg	CBASpectrum
Coles Myer	7.0	7.0	7.0	8.1	7.9
Snowy Hydro	9.0	10.6	9.1	8.3	8.3
GPT	9.2	9.0	9.1	8.5	8.5
Wesfarmers	7.8	7.8	7.8	8.9	8.9
Santos	8.9	9.1	9.2	9.1	9.1

The AER notes that these bonds mature within six years. Ideally, the sample would also include BBB+ bonds with longer maturity dates but there are no such bonds currently available in the market. Rule 74(2) of the NGR requires that an estimate is arrived at on a reasonable basis and must be the best estimate possible in the circumstances. The AER considers that this sample of bonds is the best possible in the current circumstances, where there are no BBB+ bonds with a maturity close to ten years, but that if circumstances change then the sample of bonds should also be changed.

The observed yields were compared to the Bloomberg BBB fair value curve, the CBASpectrum BBB+ fair value curve and an average of the two curves using the weighted sum of squared errors. This comparison provided the following results as shown in tables B.4 and B.5:

Table B.4: Fair value and observed yield analysis using weighted sum of squared errors over 15 days to 23 October 2009

		Observed yield source		
		Bloomberg	CBASpectrum	UBS
Fair value source	Bloomberg BBB	0.69	1.53	0.69
	CBASpectrum BBB+	0.58	1.48	0.59
	Average of Bloomberg and CBASpectrum	0.63	1.5	0.64

Table B.5: Fair value and observed yield analysis using weighted sum of squared errors over 20 days to 23 October 2009

		Observed yield source		
		Bloomberg	CBASpectrum	UBS
Fair value source	Bloomberg BBB	0.69	1.56	0.69
	CBASpectrum BBB+	0.59	1.48	0.6
	Average of Bloomberg and CBASpectrum	0.63	1.51	0.64

The AER considers that over both the 20 day and the 15 day period to 23 October 2009, CBASpectrum's BBB+ fair value curve has performed better than both Bloomberg's BBB fair value curve and an average of the two at matching observed yields for the sample of bonds. In this case performance is measured using the weighted sum of squared errors. This is true whether the source of the observed bond yields was Bloomberg, CBASpectrum or UBS. This result should not be interpreted as endorsing or criticising the methodologies used by CBASpectrum and Bloomberg to develop their fair value curves. For the final decision, the AER will update this analysis for the averaging period that has been stated in confidential appendix A.

While considering the results of this analysis the AER also notes that this matter is currently the subject of a merits review by the Australian Competition Tribunal (Tribunal).[818] The AER's final decision for ActewAGL will take account of the Tribunal's consideration of issues relating to the DRP.

B.4.3 Conclusion

Taking account of the current developments in measurement of the debt risk premium measurement and the results of the comparative analysis undertaken, the AER considers that the use of CBASpectrum's BBB+ fair value curve provides the best available prediction of observed yields for the purposes of determining an efficient benchmark BBB+ 10-year cost of debt. The AER has compared CBASpectrum's BBB+ fair value curve to Bloomberg's BBB fair value curve and an average of the two, and concludes that CBASpectrum's fair value estimates are more closely aligned to observed yields. Accordingly, there is a reasonable basis to consider that using CBASpectrum's BBB+ fair value curve results in the best estimate possible in the circumstances, providing a debt risk premium commensurate with prevailing market conditions and the risks of providing reference services in accordance with r. 87 and r. 74(2) of the NGR.

[818] Australian Competition Tribunal (Tribunal), *Application by Energy Australia, TransGrid, Integral Energy, Transend and Country Energy*, ACompT 2/2009, 3/2009, 4/2009, 5/2009, 6/2009.

C. Confidential–Self Insurance

D. Statement of costs

JAM FEES

Category	**Year (e.g. 2010–11)**		Allocated to reference services (%)	**Amount Categorised**		JAM over/under spend (in relation to annual service plan forecasts)	**Activity Level (include description of activity units)**		Driver of over/under spend
	Total ($)	Allocation to ActewAGL Gas Distribution ($ or %)		From Capex	To Capex		Target	Actual	
ASSET MANAGEMENT SERVICES FEE									
Jam Management Services Fee									
Safety Management (AS2885):									
- EBA Labour									
- Non EBA Labour									
- Other									
Integrity Management									

(AS2885):									
- EBA Labour									
- Non EBA Labour									
- Other									
Gas Distribution Networks (AS4645):									
- EBA Labour									
- Non EBA Labour									
- Other									
JAM Corporate Overheads									
ASSET SERVICES FEE									
JAM Asset Services Fee									
TRS Projects by project (location) and type (upgrade or development) e.g. Fyshwick Upgrade:									
- EBA Labour									

- Non EBA Labour									
- Other									
PRS Projects by project (location) and type (upgrade or development) e.g. Phillip Upgrade:									
- EBA Labour									
- Non EBA Labour									
- Other									
Primary Mains Extension by project:									
- EBA Labour									
- Non EBA Labour									
- Other									
Primary Scraper Stations by project:									
- EBA Labour									
- Non EBA Labour									

- Other									
Primary Extension Pigging Facilities by project:									
- EBA Labour									
- Non EBA Labour									
- Other									
Mains Integrity Projects (by location and type):									
- EBA Labour									
- Non EBA Labour									
- Other									
Information Technology (by information system e.g. GASS, Master Scada, RUGS):									
- EBA Labour									
- Non EBA Labour									
- Other									

MARKETING FEE (BY TYPE)									
Category 1 (description)									
Category 2 (description)									
NON SYSTEM ASSET / ASSET UTILISATION FEE									
CONTESTABILITY COSTS									
PRODUCTIVITY FACTOR									
TOTAL JAM FEES									

ACTEWAGL – CONTROLLABLE COSTS

	Year (e.g. 2010–11)			**Amount Recategorised**			
Category	Total ($)	Allocation to ActewAGL Gas Distribution ($ or %)	Allocated to Reference Services (%)	From Capex	To Capex	Over/under spend (in relation to forecasts)	Driver of variance from forecast
IT SUPPORT							
Outsourced Expenditure:							
- Ecowise Environmental							
- Other (description)							
Other IT Costs:							
- Labour							
- Software							
- Hardware by type (including phones, etc)							
- IT Lease Costs							
CORPORATE OVERHEADS							

Marketing (by type):							
- Category 1 (description)							
- Category 2 (description)							
CEO / Executive							
Internal Audit							
Human Resources							
Facilities Management							
Legal & Secretariat							
Corporate Finance (e.g. accounting, audit, business consulting/advisory, business financial analysis:							
- internal							
- external							
Logistics (e.g. warehousing, fleet management)							

Regulatory Costs:							
- submissions							
- labour							
OTHER CONTROLLABLE COSTS							
TOTAL ACTEWAGL CONTROLLABLE COSTS							

ACTEWAGL – NON-CONTROLLABLE COSTS

	Year (e.g. 2010–11)			Amount Recategorised			
Category	Total ($)	Allocation to ActewAGL Gas Distribution ($ or %)	Allocated to Reference Services (%)	From Capex	To Capex	Over/under spend (in relation to forecasts)	Driver of variance from forecast
GOVERNMENT / REGULATORY LEVIES							
AEMO Fees							
Energy Industry Levy							
Other Government Levies							
TAXES							
Utilities Network Facilities Tax							
Other Taxes							
GAS COSTS							
Water Bath Heaters							
Unaccounted For Gas							

Other Gas Costs							
COST PASS THROUGH COSTS							
Change In Tax Event							
Service Standard Event							
Regulatory Change Event							
CPRS Event							
NECF / NGCF Event							
STTM Event							
General Pass Through Event							
DEBT RAISING COSTS							
OTHER NON-CONTROLLABLE COSTS							

TOTAL ACTEWAGL NON-CONTROLLABLE COSTS							

Glossary

AAG	Access Arrangement Guideline
AASB	Australian Accounting Standards Board
ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
Access Economics	Access Economics Pty Ltd
ACIL	ACIL Tasman Pty Ltd
ACQ	annual contract quantity
ACG	The Allen Consulting Group Pty Ltd
ACT	Australian Capital Territory
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AFMA	Australian Financial Markets Association
ANSIO	Australian national state and industry outlook
APA Group	APA Group is comprised of the Australian Pipeline Trust and APT Investment Trust
ASX	Australian Stock Exchange
BB	National Gas Services bulletin board
CAPM	Capital Asset Pricing Model
CCGT	combined cycle gas turbine
CEG	Competition Economists Group
CGS	Commonwealth government securities
CO2	carbon dioxide
CPI	consumer price index
CPRS	Carbon Pollution Reduction Scheme
DAMS	Distribution Asset Management Services
DGM	dividend growth model
DRP	debt risk premium
DRS	district regulator set

Eastern Gas Pipeline	this is owned by Jemena Ltd and transports gas from the Gippsland Basin in Victoria to markets in Sydney and regional centres
EBA	enterprise bargaining agreement
EBT	earnings before taxation
Econtech	KPMG Econtech Pty Ltd
EGP	Eastern gas pipeline
EGW	electricity, gas and water
EIL	energy industry levy
ERP	equity risk premium
ESCV	Essential Services Commission of Victoria
GFC	Global Financial Crisis
GIS	Geographic Information System
GJ	gigajoule (1 000 000 000 joules)
GMC	Gas Market Company
GST	goods and services tax
HFL	Hoskinstown to Fyshwick loop
ICRC	Independent Competition and Regulatory Commission (ACT)
IPART	Independent Pricing and Regulatory Tribunal (NSW)
ISR	Industrial special risk
IT	Information technology
Jemena	Jemena Gas Networks (NSW) Ltd.
JV	joint venture
KPI	key performance indicator
LME	London Metal Exchange
MAOP	maximum allowable operating pressure
MCE	Ministerial Council on Energy
MDQ	maximum daily quantity
Moomba to Sydney pipeline	this is owned by the APA Group and links the Cooper Basin gas fields at Moomba with distribution networks in Sydney and regional New

	South Wales. The pipeline includes laterals to Canberra and regional centres including Lithgow and Griffith
MRP	market risk premium
MSP	Moomba to Sydney pipeline
NECF	National Energy Customer Framework
NEMMCO	National Electricity Market Management Company
NERA	NERA Economic Consulting
NIEIR	National Institute of Economic and Industry Research
NPV	net present value
NSP	network service provider
NSW	New South Wales
NTER	National tax equivalent regime
NYMEX	New York Mercantile Exchange
OECD	Organisation for Economic Co-operation and Development
ORG	Victorian Office of Regulator General
PB	Parsons Brinckerhoff
PJ	petajoule (equal to 1000 terajoules)
POTS	Packaged off take station
PRS	primary regulating station
PTRM	post-taxation revenue model
QSN Link	The link between Epic Energy's South West Queensland Pipeline and the Moomba to Adelaide Pipeline System and the MSP—the Queensland South Australia and NSW Link
RBA	Reserve Bank of Australia
SCP	SoftLaw Community Projects
SRS	secondary regulator set
STTM	short–term trading market
TJ	terajoules (equal to 1000 gigajoules)
Tribunal	Australian Competition Tribunal

TRS	trunk receiving stations
UAG	unaccounted for gas
UNFT	utilities network facilities tax
WACC	weighted average cost of capital
WBH	water bath heater
Wilson Cook	Wilson Cook & Co Limited