

**Access arrangement information for the access
arrangement for the Wagga Wagga gas
distribution network**

1 July 2010 – 30 June 2015

April 2010

As varied by the AER on 10 September 2010 under rule 68 of the National
Gas Rules

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Note: This version includes changes for the correction of an error in the taxation asset base. The changes were made on 10 September 2010.

1 INTRODUCTION

1.1 Basis for Access Arrangement Information

This *Access Arrangement Information* should be read in conjunction with the *Access Arrangement* and the *Final Decision*.

1.2 Content of this Access Arrangement Information

The purpose of this document is to set out such information as is necessary to enable *Users* and *Prospective Users* to understand the background to and basis and derivation of the *Access Arrangement*.

This document is structured as follows:

- Section 2 provides background to the *Network*, the operation of the *Network* and the *Access Arrangement* in the period to 30 June 2010
- Section 3 outlines the services to be offered to *Users* and *Prospective Users* and provides background to the *Terms and Conditions* that will apply to the provision of *Services* and provides information about non-tariff components in chapter 12 of the *Final Decision*
- Section 4 summarises *Country Energy Gas*' forecast demand for services in the *Access Arrangement* and provides information about demand forecasts in chapter 9 of the *Final Decision*
- Section 5 provides information on how the *Capital Base* has been calculated and how the return on capital and return of capital elements have been calculated and provides information about the capital base, depreciation and rate of return in chapter 3, 4 and 5 of the *Final Decision*
- Section 6 provides information regarding forecast *Operating Costs* and provides information about operating expenditure in chapter 7 of the *Final Decision*
- Section 7 explains how the total revenue requirement has been calculated and provides information about total revenue in chapter 8 of the *Final Decision*
- Section 8 outlines how total costs have been allocated to services to determine *Reference Tariffs*, and the operation and rationale behind the *Reference Tariff Variation Mechanisms* that will apply and provides information about reference tariffs and tariff variation mechanisms in chapter 10 and 11 of the *Final Decision*
- Section 9 sets out the length of the *Access Arrangement* and the manner in which *Capacity* and *Extensions* or *Expansions* will be managed across this *Access Arrangement* and provides information about non-tariff components in chapter 12 of the *Final Decision*; and
- Section 10 sets out the key performance indicators for the *Network* across this *Access Arrangement*.

1.3 Interpretation

In this *Access Arrangement Information* where a word or phrase is italicised the term has the meaning set out in the *NGL* and *NGR*, unless the word or phrase is defined in the Glossary which forms part of the *Access Arrangement*. In such a case the word or phrase has the meaning given to that word or phrase in the Glossary.

Further, in this *Access Arrangement Information* headings are for convenience only and do not affect interpretation unless the context indicates a contrary intention:

- A reference to any party includes that party's executors, administrators, successors, substitutes and assigns, including any person taking by way of novation
- A reference to this *Access Arrangement Information*, the *Access Arrangement* or to any other agreement, deed or document (including, without limitation any standard, code, guidelines or rule) includes, respectively, this *Access Arrangement Information*, *Access Arrangement* or that other agreement, deed or document as amended, novated, supplemented, varied or replaced from time to time
- Words importing the singular include the plural (and vice versa), words denoting a given gender include all other genders, and words denoting individuals include corporations (and vice versa)
- Unless the context indicates otherwise, a reference to a section is a reference to a section of this *Access Arrangement Information*
- References to currency are references to Australian currency unless otherwise specifically provided
- Reference to any legislation or to any section or provision thereof includes any statutory modification or re-enactment or any statutory provision substituted for it, and ordinances, by-laws, regulations, and other statutory instruments issued thereunder, and
- References to capital expenditure are references to net capital expenditure, exclusive of *Capital Contributions*, unless otherwise stated.

2 BACKGROUND TO THE NETWORK

2.1 Country Energy Gas Networks' Wagga Wagga Network

Gas has been available in Wagga Wagga since the late 1880s. Manufactured Gas was provided from this time until 1981 when supplies from the Cooper Basin became available. *Gas Supply* was managed by the Wagga Wagga City Council until the system was acquired by Great Southern Energy in June 1997.

Great Southern Energy, along with Advance Energy and NorthPower, were merged together to form Country Energy on 1 July 2001. As part of this merger *Country Energy Gas* became the owner and operator of the Wagga Wagga Gas Network.

At present the Network serves around 18,700 predominately domestic and small commercial *Customers*, although several large *Contract Customers* account for around 43 per cent of total Gas sales.

2.2 The access arrangement for the *Earlier Access Arrangement Period*

The access arrangement for the *Earlier Access Arrangement Period* was drafted and approved by the *Independent Pricing and Regulatory Tribunal (IPART)* and came into effect on 1 January 2006. In order to align the access arrangement for the *Earlier Access Arrangement Period* with financial years, it was designed to operate for the four and a half year period ending 30 June 2010. Revisions were required to be submitted by 1 July 2009.

2.3 Expenditure, revenue and volume outcomes

The tariffs and other arrangements set out in *IPART's* final approval of the access arrangement for the *Earlier Access Arrangement Period* were based upon a number of factors, including forecasts of capital and operating expenditure, and Gas sales. A brief summary of the outcomes of the access arrangement for the *Earlier Access Arrangement Period* are set out below.

2.3.1 Volume of Gas Sold

Gas sales to *Contract Customers* have progressively increased above what was forecast in the access arrangement for the *Earlier Access Arrangement Period*, due mainly to the gain of one major *Customer*. This increase is despite the loss of a significant proportion of load from one major *Customer* from 2007.

Volume Customer consumption was above levels forecast in the access arrangement for the *Earlier Access Arrangement Period*. This occurred as a result of substantial growth in the Wagga Wagga housing market combined with seasonal variations that caused considerable fluctuations in volume consumption. For example, the 2005/06 financial year experienced very cold winter temperatures and therefore high consumption, however milder temperatures in the 2006/07 financial year saw consumption levels drop significantly from 2005/06 financial year levels.

<i>Customers (No), Volume (GJ)</i>	2005-06	2006-07	2007-08	2008-09	2009-10 ^a
Volume load					
<i>Small Customers</i>	17,084	17,188	17,811	18,196	18,476
<i>Medium Customers</i>	178	181	178	173	183
<i>Large Customers</i>	10	9	10	9	11
Total volume Customers*	17,272	17,378	17,999	18,378	18,670
<i>Small Load</i>	808,406	709,456	749,307	754,102	777,771
<i>Medium Load</i>	93,427	81,991	86,597	79,475	86,951
<i>Large Load</i>	22,271	19,545	20,643	17,327	29,245
Total volume load	924,104	810,992	856,547	850,904	893,967
Contract load (Bomen and Central Zones)					
Total Contract Customers	15	16	17	15	15
Total contract load	627,876	628,662	705,879	723,569	681,694
Total load	1,551,980	1,439,654	1,562,426	1,574,473	1,575,661

a: This includes forecast or estimated data.

* The total volume *Customer* numbers in Table 1 represent a decrease in reported *Customer* numbers compared to those included in the access arrangement for the *Earlier Access Arrangement Period*. The variance is the result of a change of systems used for calculating *Customer* numbers. The original *Customer* numbers were derived from an internal database, however more accurate *Customer* numbers are derived from the billing system, which dynamically accounts for vacant premises and *Disconnections* providing a more overall annual average.

Table 1 – Actual and forecast Customers and consumption for the access arrangement for the *Earlier Access Arrangement Period*

The average, maximum and minimum demands for the access arrangement for the *Earlier Access Arrangement Period* are shown in Table 2 below.

GJ/Day	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10 ^a
Minimum Demand	1,102	1,131	1,100	1,059	1,166
Maximum Demand	10,351	9,475	10,523	10,223	10,622
Average Demand	4,022	3,979	4,305	4,408	4,307

a: This includes forecast or estimated data.

Table 2 – Average, maximum and minimum demands for the access arrangement for the *Earlier Access Arrangement Period*

2.3.2 Capital Expenditure

In aggregate capital expenditure was substantially higher than forecast. The main areas where expenditure exceeded forecast in the access arrangement for the *Earlier Access Arrangement Period* are as follows:

- The cast iron and galvanised iron steel refurbishment program has increased in scope because of integration with a 10 year program to upgrade the system pressures in a large number of suburbs within the *Network*. These areas are presently supplied at low pressure (< 7 kPa) and medium low pressure (20-40 kPa). Due to *Supply* pressure problems caused by long term demand growth these areas are being progressively converted to medium high pressure (80-250 kPa) through extensive pipe rehabilitation and *Network* reinforcement. Consequently costs associated with the refurbishment program have increased substantially because of the necessity to install extra system valves, upgrade all *Meter* installations and regulators and install additional *Network* pipe inter-connectors. Increased costs have also occurred because of compliance with new safety standards. The total additional expenditure is approximately \$1.5 million for the access arrangement for the *Earlier Access Arrangement Period*.
- In the period to November 2008, the Gas pressure in the main APA transmission pipeline supplying Wagga Wagga was increased from 3,000-5,500 kPa to 8,500-10,000 kPa because of the progressive commissioning of the 640MW Uranquinty Gas fired power station from August 2008. As a consequence *Country Energy Gas* was required to completely rebuild the Bomen receipt point at a cost of approximately \$1.5 million, as the new pressure requirements were above its original design specifications.
- A major *Meter* replacement program commenced in 2007/08 in order to comply with regulatory requirements. This has resulted in a 25 per cent increase in *Meter* replacement costs, increasing capital expenditure by approximately \$0.2 million above regulatory allowances.
- Unforeseen growth in new *Customer Connections* over the access arrangement for the *Earlier Access Arrangement Period* that have contributed to an approximate 73 per cent increase in new *Customer Connections* above the levels forecast in the access arrangement for the *Earlier Access Arrangement Period* (approximately \$2.2 million in additional capital expenditure).
- The Rail Infrastructure Corporation completed major repairs to the Murrumbidgee rail bridge in 2007 which required the complete removal of the critical high pressure *pipeline* from the bridge and replacement with an under-bore of the Murrumbidgee River at a cost of \$0.8 million.
- Material and labour cost increases have been strong in the *Earlier Access Arrangement Period* and this is expected to continue into the future. *Country Energy Gas* engaged *Competition Economists Group* (CEG) to research and provide escalation trends in labour and materials for the *Access Arrangement Period*.

- In the access arrangement for the *Earlier Access Arrangement Period*, gas network management costs were classified as operating expenditure. However, the actual costs were split between operating and capital expenditures consistent with the method adopted for allocation of corporate costs. This has meant an increase in actual capital expenditure against the IPART approved allowances of approximately \$1.4 million. *Country Energy Gas* has excluded this amount from its conforming capital expenditure.

Table 3 sets out *Country Energy Gas*' actual and estimated capital expenditure over the access arrangement for the *Earlier Access Arrangement Period*.

\$,000 (nominal)	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10 ^a	Total
Regulatory Allowance	827	1,603	1,692	1,909	2,089	8,120
Actual/Estimated Expenditure	1,727	2,191	3,816	3,636	4,412	15,783
Less Gas Network Management Costs	0	0	0	0	1,400	1,400
Total Capital Expenditure	1,727	2,191	3,816	3,636	3,012	14,383
Difference	(900)	(588)	(2,124)	(1,728)	(924)	(6,264)

a: This includes forecast or estimated data.

Table 3 – Actual vs regulatory allowances for total capital expenditure for the access arrangement for the *Earlier Access Arrangement Period*

2.3.2.1 Asset replacement and refurbishment

Mains Rehabilitation

The major component of the mains rehabilitation capital expenditure relates to a long term pressure upgrade program that began in 2006/07 to address *supply* pressure problems and an increasing number of *Gas Leaks* caused by ageing assets in Wagga Wagga which have new growth areas connected to them. Historically these areas have been supplied at low (<7 kPa) or medium-low (20-40 kPa) pressure however load growth has seen *supply* pressures fall to critically low levels in periods of high demand. Complete sections of streets are being progressively converted to medium-high pressure (80-250 kPa) which entails refurbishing a large percentage of the existing mains, consumer services and *Metering Installations*. *Country Energy Gas* has significant lengths of cast iron or galvanised steel pipes that prevent the supply of significantly higher pressures as a result of leakages of joints and possible corrosion spots under high pressures.

Total costs associated with the rehabilitation program increased substantially and were higher than expected because of the necessity to:

- install extra system valves
- upgrade all *Meter* installations and regulators to cope with the upgraded pressures and deliver 1.5 kPa to 2.75 kPa to the *Customer*
- replace the *Meter* installation piping as necessary to conform with modern construction standards

- comply with new safety standards
- comply with new construction and operating practices that prohibit working on live Gas, and
- reinforce the *Network* with some existing inter-connectors being increased in *Capacity* and the construction of new inter-connectors.

At 30 June 2009 *Country Energy Gas* operated approximately 110 kilometres of galvanised steel, the majority being constructed between 1950 and 1980. Field data and engineering forecasts suggest that a median asset life of 50 years for these distribution mains is likely, and probability analysis suggests that a growing proportion of the *Network* will require replacement during this *Access Arrangement*. *Country Energy Gas* proposes to replace 2 per cent of the galvanised steel/cast iron mains each year over the course of the *Access Arrangement*.

At 30 June 2009 *Country Energy Gas* operated approximately 35 kilometres of cast iron mains first installed in 1950. The last of the cast iron mains were laid in the early 1990s with a proportion of the original system having already been rehabilitated, mainly due to the previously described pressure upgrade projects. A section of cast iron mains will be replaced primarily where leak survey information indicates it is prudent to replace a section of mains compared to repairing individual leaks, or where insufficient *Capacity* on the mains is available. This program is planned to continue in the *Access Arrangement*.

The total expenditure on mains rehabilitation is shown below in Table 4.

\$,000 (nominal)	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10 ^a	Total
Regulatory Allowance	233	514	557	611	656	2,571
Actual/Estimated Expenditure	332	647	547	940	1,639	4,105
Variation	(99)	(133)	10	(328)	(983)	(1,534)

a: This includes forecast or estimated data.

Table 4 – Actual vs regulatory allowances for mains refurbishment for the access arrangement for the *Earlier Access Arrangement Period*

Meter Replacement

The Gas Supply (Gas Meters) Regulation 2002 requires *meters* to be replaced when they reach 15 years of age. In the period from July to September 2007 a full field audit was conducted of all Wagga Wagga domestic *meter* installations to accurately record installation dates. Following finalisation of an initial 3 year replacement tender a long term replacement program commenced in November 2007, and is planned to continue for 5 years. Most of this program has been tendered out to external contractors, however approximately 20 to 25 per cent of the programmed replacement *meters* are complex installations caused by a combination of the *meter's* position or the condition of the *meter* pipes and regulators. This adds extra costs as these more complex *meter* changes normally require a full replacement and possible relocation of the full *meter* installation.

Country Energy Gas' meter replacement costs are set out in Table 5 below.

\$,000 (nominal)	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10 ^a	Total
Regulatory Allowance	46	108	161	211	222	747
Actual/Estimated Expenditure	17	27	718	320	457	1,539
Variation	29	81	(557)	(110)	(235)	(792)

a: This includes forecast or estimated data.

Table 5 – Actual vs regulatory allowances for meter replacements for the access arrangement for the *Earlier Access Arrangement Period*

2.3.2.2 Growth Related

Growth related expenditure includes expenditure on new *Connections* and new mains. Expenditure on *Customer Connections* is greater than forecast due to total *Customer Connections* being significantly above forecasts for the access arrangement for the *Earlier Access Arrangement Period*.

The expenditure on *Network* reinforcement was also higher primarily because of the unplanned upgrade of the *Bomen Receipt Point* in 2007/08 and 2008/09 at a cost of approximately \$1.5 million. This major reconstruction was forced by an increase in transmission pipe pressures supplying the *Wagga Wagga Network* from 5,000 kPa to 10,000kPa. The *Bomen Receipt Point* was only design rated for 7,000 kPa and therefore had to be totally reconstructed to operate with the higher pressure.

\$,000 (nominal)	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10 ^a	Total
New Connections/Mains	1,172	1,394	1,347	1,011	1,162	6,086
Network Reinforcement	206	123	1,204	1,366	1,153	4,052
Total	1,379	1,517	2,551	2,377	2,316	10,140
Regulatory Allowance	437	744	726	824	950	3,681
Variation	(942)	(773)	(1,825)	(1,553)	(1,366)	(6,459)

a: This includes forecast or estimated data.

Table 6 – Actual real capital expenditure for new *Connections* for the access arrangement for the *Earlier Access Arrangement Period*

2.3.2.3 Non-system assets

Non-system assets includes direct expenditure on IT systems and hardware, telephones, furniture and fittings and instruments, which are required to support the *Gas* distribution business. While IPART approved specific allowances for direct expenditure on each category of non system assets, *Country Energy Gas'* financial system captures and reports these costs as part of the corporate allocation that is distributed to the *Network*, consistent with the AER approved cost allocation method.

Therefore, the actual costs for non system assets for the access arrangement for the *Earlier Access Arrangement Period* are not individually identifiable, and the access arrangement allowances for the *Earlier Access Arrangement Period* have been added to total regulatory allowances in Table 3 above.

2.3.3 Operating Expenditure

The regulatory regime provided *Country Energy Gas* with an incentive to maintain operating expenditure at levels approved by the IPART, as additional expenditure above levels approved in an access arrangement cannot generally be recouped from *Customers*.

2.3.3.1 Comparison of Allowed Operating and Maintenance Expenditure

Table 7 shows *Country Energy Gas*' allowed level of operating costs over the access arrangement for the *Earlier Access Arrangement Period* compared to the actual and estimated expenditure.

\$,000 (nominal)	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10 ^a	Total
Network Operations & Maintenance	340	1,272	1,213	1,193	1,246	5,265
Advertising, Marketing & Promotions	3	0	90	120	165	378
Direct Gas Network Management	218	243	355	370	387	1,573
Corporate Allocation	129	530	223	358	397	1,638
Total Operating Expenditure	691	2,045	1,882	2,042	2,194	8,853
Regulatory Allowance	1,111	2,297	2,346	2,444	2,504	10,702
Variation	421	252	464	402	310	1,849

a: This includes forecast or estimated data.

Table 7 – Actual and estimated operating expenditure vs regulatory allowances for the access arrangement for the *Earlier Access Arrangement Period*

Operating expenditure, in aggregate, was lower than levels forecast in the access arrangement for the *Earlier Access Arrangement Period*. The lower spending levels have occurred largely as a result of actual direct *Gas Network* management costs being allocated to both capital and operating expenditure, rather than the approach approved in the access arrangement for the *Earlier Access Arrangement Period* of classifying all direct gas network management costs as operating expenditure.

The lower spending was achieved despite increased costs occurring as a result of events that largely have been outside *Country Energy Gas*' control, with input costs a major driver. The major cost increases outside of the control of *Country Energy Gas* are:

- Substantial staff training costs being incurred as a result of the necessity to comply with the competent persons criteria in the *Network Management Plan CEM7090*
- Corrective mains works increased substantially above forecast because of *gas leaks* identified in the annual leak survey

- Increases in workplace safety costs because of major changes in internal operating procedures to eliminate working with live Gas
- Increased costs due to internal and external environmental compliance policy and procedure changes
- Increased maintenance costs due to ageing of the *Network*
- Material and labour cost increases have been high in the *Earlier Access Arrangement Period* and this is expected to continue into the future. *Country Energy Gas* engaged Competition Economists Group (CEG) to research and provide escalation trends in labour and material costs for the *Access Arrangement Period*
- Higher than forecast growth in the *Network* and number of *Customers* served. This has resulted in higher system operating and maintenance costs
- The introduction of a number of legislative instruments relating to the management and operation of the *Network*, including those set out in section 2.3.4 below
- Additional costs associated with the operations within the NSW Gas Market
- Increased workplace health and safety related standards, and
- Increased security costs.

As the majority of these events are not one-off items, but rather have created a 'step' increase in expenditure, they are reflected in operating expenditure for this *Access Arrangement*. The 2008/09 financial year is an accurate representation of operating expenditure with no abnormal expenditure occurring during the year, and as such has been used as a base year for future projections.

Expenditure on advertising and marketing has increased progressively during the *Earlier Access Arrangement Period* due to the *Country Energy Gas*' appliance incentive program, and the participation in a state based generic marketing campaign, under the "natural Gas natural choice" program run by the New South Wales natural Gas *Networks* industry group.

2.3.4 Operation of the access arrangement in the *Earlier Access Arrangement Period*

Since the commencement of the access arrangement for the *Earlier Access Arrangement Period* on 1 January 2006, a number of additional compliance and other regulatory obligations have been imposed on NSW Gas distribution businesses. These include obligations imposed by statutory and regulatory bodies, and cover matters including:

- The introduction of the *NGL*, *NGR* and National Gas Regulations on 1 July 2008
- The revision of the NSW Gas Supply (Safety and Network Management) Regulation 2008, and
- Compulsory membership of Dial Before You Dig.

2.3.5 Material Changes to the Access Arrangement

The *Access Arrangement* for the *Access Arrangement Period* incorporates a number of amendments, with key differences including:

- Amendments to the *Access Arrangement*, and particularly the standard *Terms and Conditions* to ensure consistency with the new *NGL*, *NGR* and *Codes* noted above
- Reintroduction of provisions relating to queuing
- Introduction of a *Deactivation Service* to the list of *Additional Services*. The *Deactivation Service* has been included to cover the costs of removing our assets from disconnected premises
- A change from a Reference Service Agreement to separate *Terms and Conditions*
- A change from a pre tax framework to a post tax framework consistent with AER practice
- A change in the naming of volume *Reference Tariffs* from residential, commercial and industrial to small, medium and large to reduce confusion between definitions and naming conventions for *Users*
- The merger of the Central and Fringe contract zones. With a detailed cost of supply study indicated roughly equal costs to *supply* each of the central and fringe zones and in order to minimise the number of contract zones it was considered equitable to merge these zones; and
- A change in reporting of the *Capital Base* from physical classes to asset classes. This allows easier management by pressure zones and is consistent with standard industry practice.
- The inclusion of an allowance for *Unaccounted for Gas* in forecast operating expenditure, rather than as an uplift volume factor charged at the reference tariff. This provides appropriate incentives for *Country Energy Gas* to minimise *Unaccounted for Gas* in the *Network*.

2.3.6 Physical Characteristics of the Network

2.3.6.1 Network Description

Gas enters the *Network* through *Receipt Points* (located at Bomen and Uranquinty) where it is preheated to approximately 35°C. The pressure at each city gate is reduced from approximately 3,000-10,000 *kPa* to approximately 1000 *kPa*. The *Bomen Receipt Point* incorporates twin streams of two stage pressure reduction regulators with monitor override and over pressure protection. The *Uranquinty Receipt Point* comprises a single stream single stage pressure reduction using an active/monitor configuration with over pressure protection.

The Gas is then supplied from the *Receipt Points* via steel mains (API 5L) to the various *Supply* districts in Wagga Wagga. Each district is supplied through a district regulator. The small volume metering pressure in Wagga Wagga is predominately 1.5 kPa, however 2.75 kPa can be found in some districts. Medium & Large volume metering pressures will vary from 7 kPa to 100 kPa. *Contract Customers* are typically supplied from the high pressure steel mains.

2.3.6.2 Network Operation

Country Energy Gas operates the *Network* at various pressures depending on the location and the piping medium. As set out in section 5, a rehabilitation program is in place targeting pipe with a condition score of poor or less. Typically these pipes are galvanised steel and cast iron which are inserted with polyethylene, and where this is not possible, new pipe is laid. System pressures will be increased as the rehabilitation program is progressed. The reticulation system operates under the following pressure regime:

- High Pressure (400-1050 kPa)
- Medium High Pressure (80-250 kPa)
- Medium Low Pressure (20-40 kPa)
- Low Pressure (<7 kPa)

2.3.6.3 Network Capacity

Peak flows within the system generally occur during normal *Business Days* at around 8 - 10am. Hourly flow rates of up to 20,000 standard cubic *Meters* per hour have been registered at various winter peak times over the past several years. Coincident peak demand is driven by the temperature sensitive volume load and hence occurs in winter for the *Network*.

3 PIPELINE SERVICES TO BE OFFERED

NGR 48 requires *Country Energy Gas* to describe the distribution *Pipeline Services* that will be made available to *Users* or *Prospective Users*, including:

- specifying the *Reference Services*, and
- specifying for each *Reference Service*:
 - the *Reference Tariff*; and
 - the other *Terms and Conditions* on which the *Reference Service* will be provided.

Consistent with the access arrangement for the *Earlier Access Arrangement Period*, *Country Energy Gas* proposes to offer a *Contract Transportation Service* and a *Volume Transportation Service* to *Users*. These services are likely to be sought by a significant part of the market and will be *Reference Services* attracting a *Reference Tariff*.

Country Energy Gas also proposes to offer seven non-transportation *Reference Services* in the *Access Arrangement Period*, known as *Additional Services*. In time, *Country Energy Gas* will examine whether *Additional Services* are contestable services or services not sought by a significant part of the market and should therefore be withdrawn from the *Access Arrangement*.

As in the access arrangement for the *Earlier Access Arrangement Period*, *Country Energy Gas* will continue to offer *Negotiated Services* to *Users*.

3.1 Reference Services

As noted above, *Country Energy Gas* will continue to offer the same *Transportation Reference Services* as in the access arrangement for the *Earlier Access Arrangement Period*. *Country Energy Gas* has not received any requests for other forms of *Reference Services*, and is not aware of any changes in circumstances or future developments that suggest that these services will not continue to be sought by a significant part of the market during the *Access Arrangement Period*.

3.1.1 Contract Transportation Service

The *Contract Transportation Service* is provided to the *User* in respect of the *Delivery Point* of a *Contract Customer* and consists of:

- Receiving natural Gas at a *Receipt Point*
- Transporting the natural Gas from a *Receipt Point* through the *Network*
- Delivering the natural Gas to the *Delivery Point*
- Installing, maintaining and repairing *Metering Facilities* at the *Delivery Point*
- Reading the *Metering Facilities* at the *Delivery Point* at a frequency of every 24 hours

- Providing data, including metering data, to the *User* and other entities in accordance with the requirements of the *Retail Market Procedures*, and
- In the case of a *Customer* who is not connected to the *Network*, the provision of a distribution *pipeline* from the *Network* to the nearest point on the *Customer's* property, where the provision of such a distribution *pipeline* is consistent with the *Extensions/Expansions Policy* set out in section 7 of the *Access Arrangement* and satisfies the new capital expenditure criteria of NGR 79.

A *Contract Customer* is a *Customer* who has (or is reasonably expected by *Country Energy Gas* to have) an annual consumption of 10TJ or greater at a single *Delivery Point* provided that after the *Contract Customer* is connected, their annual consumption is less than 10TJ for a period of two consecutive years, the *Contract Customer* will remain a *Contract Customer* for that period. *Country Energy Gas* may at the end of the period of two consecutive years classify the *Contract Customer* as a *Volume Customer* upon providing the *User* with written notice.

If *Country Energy Gas* classifies a *Customer* as a *Volume Customer*, *Country Energy Gas* may remove the *Communications Equipment* from the *Customer's Metering Facilities*.

3.1.2 Volume Transportation Service

The *Volume Transportation Service* is provided to the *User* in respect of the *Delivery Point* of a *Volume Customer* and consists of:

- Receiving natural Gas at a *Receipt Point*
- Transporting the natural Gas from a *Receipt Point* through the *Network*
- Delivering the natural Gas to the *Delivery Point*
- Installing, maintaining and repairing *Metering Facilities* at the *Delivery Point*
- Reading the *Metering Facilities* at the *Delivery Point* at a frequency of at least quarterly
- Providing data, including metering data, to the *User* and other entities in accordance with the requirements of the *Retail Market Procedures*; and
- In the case of a *Customer* who is not connected to the *Network*, the provision of a distribution *pipeline* from the *Network* to the nearest point on the *Customer's* property, where the provision of such distribution *pipeline* is consistent with the arrangements set out in section 7 of the *Access Arrangement* for the *Access Arrangement Period* and satisfies the new capital expenditure criteria of NGR 79.

A *Volume Customer* is a *Customer* who has (or is reasonably expected by *Country Energy Gas* to have) an annual consumption of less than 10TJ at a single *Delivery Point*.

3.1.3 Additional Services

The *Additional Services* offered in the *Earlier Access Arrangement Period* will continue to be offered in the *Access Arrangement Period*, with the addition of the *Deactivation Service*. *Country Energy Gas* will examine whether these *Additional Services* should be withdrawn from the *Next Access Arrangement Period* if they are found to be a contestable

service or a service that is not sought by a significant part of the market. The *Additional Services* are as follows:

- 1) a *Residential Meter Testing Service*;
- 2) a *Special Meter Reading Service*;
- 3) a *Reconnection Service*;
- 4) a *Disconnection Service*;
- 5) a *Business Disconnection/Reconnection Service*;
- 6) an *After Hours Reconnection Service*; and
- 7) a *Deactivation Service*.

These services will be provided consistent with the requirements of the relevant regulatory Law and *Rules*.

3.2 Non-Reference Services - Negotiated Services

Country Energy Gas will continue to offer *Negotiated Services* in the *Access Arrangement Period*. A *Negotiated Service* is a service that is different from a *Reference Service*. As required by the *NGL* and *NGR*, *Country Energy Gas* will negotiate in good faith with a *User* or *Prospective User* to provide a *Negotiated Service*.

3.3 Service Standards and Quality

Country Energy Gas will provide services in accordance with the service standards and the *Terms and Conditions* set out in:

- the *Access Arrangement*
- the *NGL*, as amended from time to time
- the *NGR*, as amended from time to time
- the *National Gas Regulations*, as amended from time to time
- the *Network Code*, as amended from time to time
- the *Retail Market Procedures*, as amended from time to time, and
- the standard *Terms and Conditions*, as amended from time to time.

4 FORECAST DEMAND FOR SERVICES

4.1 Overview of Gas Demand in Wagga Wagga

The Wagga Wagga system serves approximately 18,700 *Customers* who collectively purchase approximately 1.58 PJ of Gas each year, which is transported through 680km of pipes/mains. The vast majority of the Gas consumers are *Volume Customers*, each using less than 10 TJ of Gas per year. The small volume market represents approximately 50 per cent of the total load, and medium and large volume *Customers* represent approximately 7 per cent.

There are also a small number of *Contract Customers*, who consume the remaining 43 per cent of the total load. These *Customers* are concentrated in two zones:

- the Bomen Zone, covering all the area serviced by the *Network* that is north of the Murrumbidgee River
- the Central Zone, covering the main area of the City of Wagga Wagga and *Extensions* of the *Network* to the Kapooka and Forest Hills areas

The Bomen Zone is closest to the northern city gate, and historically, *Customers* in the Bomen Zone have been most susceptible to bypass.

Around 95 per cent of domestic households are connected to the *Network*. Commercial uses of Gas include wool combing, hospital services, plywood manufacture and asphalt production. Gas is also used by large army and air force establishments, and by educational institutions.

4.2 Forecast Capacity and Utilisation

The Wagga Wagga *Network* is a meshed network and *Country Energy Gas* is not able to provide forecast *Pipeline Capacity* and utilisation information.

4.3 Forecast

The *Final Decision* approves the *load* forecast for the *Network* as summarised below in Table 8.

Customers (No), Volume (GJ)	2010-11	2011-12	2012-13	2013-14	2014-15
Volume load forecasts					
Volume Customers	18 960	19 250	19 540	19 830	20 120
Total volume load	919 586	931 867	942 157	953 330	964 427
Contract load forecasts					
Contract Customers	14	14	14	14	14
Bomen zone load	461 372	461 193	461 013	460 834	460 655
Central/Fringe zone load	184 972	184 802	184 632	184 461	184 291
Total contract load	646 344	645 995	645 645	645 295	644 946
Total load	1,565,930	1,577,862	1,587,802	1,598,625	1,609,373
Contract MDQ					
Bomen zone MDQ	2,884	2,884	2,884	2,884	2,884
Central/Fringe zone MDQ	1,084	1,084	1,084	1,084	1,084

Table 8 – Total forecast load for the Access Arrangement

Refer to sections 9.3.1-9.3.3 of chapter 9 of the *Final Decision* for further information about the load forecasts approved. Note *Country Energy Gas* provided updated volume forecasts for Table 8.

The forecast average, maximum and minimum demand for the *Access Arrangement* are shown in Table 9 below.

GJ	2010-11	2011-12	2012-13	2013-14	2014-15
Minimum Demand	N/A	N/A	N/A	N/A	N/A
Maximum Demand	10,922	10,928	10,981	11,010	11,039
Average Demand	4,429	4,431	4,453	4,464	4,476

Table 9 – Average, maximum and minimum demands for the Access Arrangement

5 CAPITAL COSTS

5.1 The Opening Capital Base

Country Energy Gas has excluded *Capital Contributions* from the value of the *Capital Base*.

5.1.1 Initial Capital Base

The initial *Capital Base* of \$44.54m as at 1 January 2006 was determined by IPART when the access arrangement for the *Earlier Access Arrangement Period* was approved in December 2005.

5.1.2 System Capital for the access arrangement for the *Earlier Access Arrangement Period*

The *Final Decision* approves the opening capital base in Table 10.

\$,000 (nominal)	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10 ^a	Total
Asset replacement & refurbishment	349	674	1,266	1,260	2097	5,645
Growth related	1,379	1,517	2,551	2,377	2316	10,140
Less Network Management Costs	0	0	0	0	1,400	1,400
Total	1,727	2,191	3,816	3,636	3,012	14,383

a: This includes forecast or estimated data.

Table 10 – Actual and estimated conforming capital expenditure for the access arrangement for the *Earlier Access Arrangement Period*

Figures in the table exclude *Capital Contributions* by third parties.

Refer to section 3.3.1 of chapter 3 of the *Final Decision* for further information about the opening capital base.

5.1.3 Regulatory Depreciation for the access arrangement for the *Earlier Access Arrangement Period*

The amount used for *Depreciation* in rolling forward the *Capital Base* is the allowed *Depreciation* from the access arrangement for the *Earlier Access Arrangement Period*, adjusted for actual CPI.

\$,000 (nominal)	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10
Total	564	1,226	1,332	1,474	1,588

Table 11 – Regulatory depreciation in the access arrangement for the *Earlier Access Arrangement Period*

5.1.4 Redundant Capital and Asset Disposals

Country Energy Gas is not aware of any material assets that have become redundant or re-used over the access arrangement for the *Earlier Access Arrangement Period*. Therefore no redundant capital has been deducted or removed in rolling forward the *Capital Base*.

No material assets are expected to be disposed of during the course of this *Access Arrangement*.

5.1.5 Speculative Capital Expenditure Account

Country Energy Gas does not maintain a speculative capital expenditure account nor does it propose to create a speculative capital expenditure account.

5.1.6 Opening Capital Base

The *Capital Base* approved in the *Final Decision* as at 30 June 2010 is outlined in Table 12 below.

\$,000 (nominal)	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10 ^a
Opening capital base	44,515	46,280	48,921	52,590	57,121
Capital expenditure	1,727	2,191	3,816	3,636	4,412
Less network management costs					1,400
Depreciation	564	1,226	1,332	1,474	1,588
Disposals	0	0	0	0	0
Adjustment for inflation (indexation)	602	1,676	1,186	2,368	1,067
Less difference between actual and forecast capital expenditure (Jan-June 06)					25
Less adjustment					13
Closing capital base	46,280	48,921	52,590	57,121	59,574

a: This includes forecast or estimated data.

Table 12 – Calculation of the *Capital Base* as at 30 June 2010

Refer to section 3.3.1 of chapter 3 of the *Final Decision* for further information.

Indexation of the *Capital Base* has taken place using the following CPI adjustment factors. These factors are based on the index number for the weighted average of eight capital cities as published by the Australian Bureau of Statistics (ABS). Table 13 sets out the inflation approved in the *Final Decision*.

CPI (per cent)	Jan to Jun 2006	2006-07	2007-08	2008-09	2009-10
Total	1.33	3.54	2.33	4.35	1.82

Table 13 – CPI indexation of Capital Base

The CPI figure for June 2006 is the half year CPI, while the remainder are full financial year figures. The *Capital Base* of \$59,574 (\$'000, nominal) at 1 July 2010 represents a 33.8 per cent increase in nominal value since 2006.

Refer to section 3.3.1.2 of chapter 3 of the *Final Decision* for further information.

5.2 The Projected Capital Base

The projected *Capital Base* over the *Access Arrangement* reflects:

- the opening *Capital Base* as at 1 July 2010
- **plus** forecast Capital Expenditure for the *Access Arrangement*
- **less** forecast *Depreciation* for the *Access Arrangement*
- **less** the forecast value of distribution *pipeline* assets to be disposed of or made redundant in the course of the *Access Arrangement*,
- **plus** adjustments for CPI.

5.2.1 Forecast System Capital Expenditure for the Access Arrangement

The *Final Decision* approves the capital expenditure in Table 14.

\$,000 (real 2009-10)	2010-11	2011-12	2012-13	2013-14	2014-15	Total
Asset replacement & refurbishment	1997	1702	1871	1935	1452	8958
Growth related	2120	2602	2292	1934	2205	11154
Total	4117	4304	4164	3869	3657	20111

Table 14 – Forecast conforming capital expenditure for the Access Arrangement Period

Refer to section 3.3.2 of chapter 3 of the *Final Decision* for further information.

5.2.1.1 Asset replacement and refurbishment related expenditure

The major component of the asset and refurbishment capital expenditure relates to a long term pressure upgrade program. This program commenced in 2006/07 to address *supply* pressure problems and *gas leaks* caused by ageing assets in Wagga Wagga which have new growth areas connected to them. Historically these areas have been *Supplied* at low (<7 kPa) or medium-low (20-40 kPa) pressure, however load growth has seen *supply* pressures fall to critically low levels in periods of high demand. Large areas are being progressively converted to medium-high pressure (80-250 kPa), which entails refurbishing a large percentage of the existing mains, consumer services and *Metering Installations*.

Some of the localities within Wagga Wagga that are programmed to have pressure upgrades over the *Access Arrangement* are:

- Lake Albert pressure increase stage 6
- Glenfield pressure increase stage 2
- Ashmont pressure increase stages 1, 2 & 3

- CBD Fitzmaurice St low pressure increase to 240 kPa, and
- Koorungal pressure increase.

In order to deliver sufficient Gas volumes into the upgraded pressure areas some existing inter-connectors will have to be increased in *Capacity* and new inter-connectors constructed.

The *Final Decision* approves the capital expenditure for these projects as set out in Table 15 below:

\$,000 (real 2009-10)	2010-11	2011-12	2012-13	2013-14	2014-15
Refurbishment Cost	1597	1470	1656	1541	943

Table 15 – Forecast Mains Refurbishments capital expenditure for the Access Arrangement Period

Refer to section 3.3.2 of chapter 3 of the *Final Decision* for further information.

In order to comply with Gas Supply (Gas Meters) Regulation 2002, *Country Energy Gas* has forecast to replace *meters* when they reach 15 years of age. In the first quarter of the 2007/08 financial year, all Wagga domestic *meter* installations were audited to accurately record installation dates. This data has been used to structure a long term replacement program, which commenced in November 2007. The *Final Decision* approves the capital expenditure for *meter* replacement as shown in Table 16 below.

\$,000 (real 2009-10)	2010-11	2011-12	2012-13	2013-14	2014-15
Meter replacement cost	400	232	215	394	510

Table 16 – Forecast meter replacement expenditure for the Access Arrangement Period

Refer to section 3.3.2 of chapter 3 of the *Final Decision* for further information.

5.2.1.2 Growth related expenditure

Growth related expenditure includes expenditure on new *Connections* and new mains.

New *Connection* expenditure is based upon the number of new *Connections* to the system set out in *Country Energy Gas*' demand forecast including expenditure on the *Connection* to the main, the *Service pipeline* and the cost of a *meter*. It is assumed that a proportion of the new *Connections* will be funded through *Capital Contributions* from *Customers* or *Developers*, and hence forecast expenditure is adjusted to take this into account.

With respect to growth related capital expenditure, the major expenditure areas are:

- New mains associated with the previously described pressure upgrade program in various parts of Wagga Wagga
- Various *Extensions* or upgrades to cater for system growth
- Wagga Wagga critical line valve installation program

- Mains *Extensions* to *Supply* new *Connections* and system augmentations, and
- *Connection* of 315 new *Customers* per year and the accompanying mains *Extensions*, based upon a forecast of 25 metres of mains per new *Customer Connection*.

\$,000 (real 2009-10)	2010-11	2011-12	2012-13	2013-14	2014-15
New Connections and Mains	1,173	1,183	1,196	1,203	1,207
Network Reinforcement	947	1,419	1,096	730	997
Total	2,120	2,602	2,292	1,934	2,205

Table 17 – Forecast New Connection expenditure for the Access Arrangement Period

Refer to section 3.3.2 of chapter 3 of the *Final Decision* for further information.

5.2.1.3 Forecast Non System Capital Expenditure for the Access Arrangement

Country Energy Gas' financial system captures and reports non system capital expenditure as part of the corporate allocation that is distributed to the *Network*. This corporate allocation is consistent with the approved cost allocation method contained in the *AER*'s New South Wales distribution determination 2009-10 to 2013-14 (the electricity distribution determination).

Therefore, the actual costs for non system assets for the *Access Arrangement* are not individually identifiable, but are included in the forecast system capital expenditure categories above.

5.2.2 Asset Sales and Redundant Capital

No redundant capital or material asset disposals are forecast over the *Access Arrangement Period*.

5.2.3 Depreciation

Consistent with the approach adopted in the access arrangement for the *Earlier Access Arrangement Period*, *Depreciation* has been calculated on a straight line basis utilising economic asset lives applied to the opening regulatory asset value at the beginning of each year. However, *Country Energy Gas* has made a change in reporting of the *Capital Base* from physical classes to asset classes. This change was made as it allows easier management by pressure zones and is consistent with standard industry practice.

The economic asset lives, remaining lives and written down values for each asset category as at 30 June 2010 as approved in the *Final Decision* are shown in Table 18 below. The remaining lives of each asset category are calculated on 30 June 2010 as the sum of the written down values multiplied by the remaining lives, divided by the sum of the written down values.

Asset Category	Economic Life (yrs)	Remaining Life (yrs)	WDV (\$,000 nominal)
High Pressure	80	59	9,093
Medium-High Pressure	50	35	11,295
Medium-Low Pressure	50	25	17,428
Low Pressure	50	31	137
Services	50	30	14,946
Meters & Regulators	15	8	1,812
District Regulators	40	18	736
Gate Stations	50	45	3,078
SCADA & Telemetry	20	12	79
Total System Assets			58,605
Total Non System Assets	5	1	969

Table 18 – Economic asset lives, remaining lives and written down values as at 30 June 2010 (units as stated)

Refer to section 4.4 of chapter 4 of the *Draft Decision* for further information.

Table 19 below shows the opening regulatory written down values, weighted average regulatory economic lives, weighted average remaining lives, and the calculated depreciation amounts forecast for the *Access Arrangement* for each asset class as approved by the *Final Decision*. Land & buildings have not been included in the depreciation calculation.

\$,000 (nominal)	Total Economic Life (yrs)	Average Remain. Life	WDV 30/06/10	2010-11	2011-12	2012-13	2013-14	2014-15
System Assets	53.4	34	58,605	2,064	2,225	2,386	2,554	2,734
Non-System Assets	5	1	969	223	0	0	0	0
Total	52.5	33	59,574	2,287	2,225	2,386	2,554	2,734

Table 19 – Forecast depreciation for the Access Arrangement

Refer to section 3.3.2.4 of chapter 3 of the *Final Decision* for further information.

5.2.4 Equity Raising Costs

Country Energy Gas has not included any equity raising costs due to the immaterial level calculated, based on the *Access Arrangement* building blocks.

5.2.5 The Projected *Capital Base*

The *Capital Base* approved in the *Final Decision* for the *Access Arrangement* is shown in Table 20:

\$,000 (nominal)	2010-11	2011-12	2012-13	2013-14	2014-15
Opening capital base	59,574	63,155	67,202	71,150	74,810
Forecast capital expenditure	4,367	4,680	4,641	4,421	4,284
Forecast depreciation	2,287	2,225	2,386	2,554	2,734
Disposals	0	0	0	0	0
Adjustment for inflation	1,501	1,592	1,693	1,793	1,885
Closing capital base	63,155	67,202	71,150	74,810	78,246

Table 20 – Projected capital base for the *Access Arrangement Period*

Refer to section 3.3.2 of chapter 3 of the *Final Decision* for further information.

5.3 Cost of Capital

Table 21 sets out *Country Energy Gas*' cost of capital for the *Access Arrangement*.

The details of how the WACC parameters have been estimated are set out in the rate of return chapter 5 of the *Final Decision*.

5.3.1 Nominal Risk Free Rate

Country Energy Gas uses a nominal risk free rate of 5.62 per cent estimated using the annualised yield on ten year CGS over the averaging period of 15 business days between 22 February 2010 and 12 March 2010.

Refer to section 5.3 of the *Final Decision* for further information.

5.3.2 Inflation

The *Final Decision* approves an inflation rate of 2.52 per cent.

Refer to section 5.7 of the *Final Decision* for further information.

5.3.3 Market Risk Premium

The *Final Decision* approves a market risk premium of 6.5 per cent.

Refer to section 5.5 of the *Final Decision* for further information.

5.3.4 Debt Risk Premium

The *Final Decision* approves a debt risk premium of 3.36 per cent.

Refer to section 5.4 of the *Final Decision* for further information.

5.3.5 Equity Beta

The *Final Decision* approves an equity beta of 0.8.

Refer to section 5.6 of the *Final Decision* for further information.

5.3.6 Summary of WACC parameters

Table 21 summarises the WACC parameters approved in the *Final Decision*, resulting in a nominal vanilla WACC of 9.72 per cent.

WACC Parameter	Parameter Value
Nominal risk free rate (%)	5.62
Inflation (%)	2.52
Real risk free rate (%)	3.02
Market risk premium (%)	6.5
Debt risk premium (%)	3.36
Debt to total assets (gearing) (%)	60
Equity Beta	0.8
Nominal vanilla WACC (%)	9.72

Table 21 – WACC parameters adopted for the Access Arrangement

The WACC parameters set out in Table 21 have been applied in the *Access Arrangement Information* and the *Access Arrangement*, consistent with the *Final Decision*.

5.4 Return on Capital

The return on the capital component of the building block has been calculated as follows:

\$,000 (nominal)	2010-11	2011-12	2012-13	2013-14	2014-15
Return on <i>Capital Base</i>	5,788	6,136	6,529	6,913	7,269

Table 22 – Forecast return on capital calculation for the Access Arrangement

6 OPERATING EXPENDITURE

6.1 Forecast Operating and Maintenance Expenditure

Country Energy Gas has used the 2008/09 actual operating expenditure as the base for projecting forecast operating expenditure over the *Access Arrangement Period*.

The incremental rate of change in operating expenditure expected over the *Access Arrangement Period*, due to the impact of these factor changes, can be adjusted annually according to the formula:

$$\text{Opex}_{t+1} = \text{Opex}_t * (1+F+G)$$

Where:

- F is a real wage and material cost growth factor
- G is a network growth factor

Accordingly it is necessary to determine the annual rate of change in expenditure level over the *Access Arrangement Period*.

Demand growth

Most of the forecast operating expenditure is associated with the existing asset base. However, growth related capital expenditure increases the size of the *Network* and the number of assets to be maintained, operated and managed. Accordingly, there is a need to establish a relationship between demand growth and real increases in operating expenditure.

The rate of change should reflect the marginal cost associated with providing that additional output. To be able to quantify this, it is necessary to first identify the measure(s) that are considered important for explaining the anticipated incremental costs to be incurred. The approach taken should be administratively simple and aim to provide the right incentives.

There are a number of appropriate measures including:

- Asset growth
- Energy consumption
- *Maximum Daily Quantity*
- Number of distribution *Customers*, and
- Length of the *Network*.

Country Energy Gas has increased its operating expenditure by the proportion of average annual growth related capital expenditure over the total replacement costs of distribution assets. This ratio is then reduced by 25 per cent to reflect that new assets will not incur condition based asset maintenance. The one exception to this application of the asset growth escalator is for marketing. Given the marketing and advertising programs are specific targeted programs in this instance, *Country Energy Gas* has not incorporated an asset growth escalator for this category of operating expenditure.

Real wage and material cost increases

It is necessary to determine the price index relevant to the inputs employed in operating and maintenance activities. The IPART adopted CPI only as the cost inflator for the access arrangement for the *Earlier Access Arrangement Period*, however actual wage and material cost growth has exceeded inflation. For this *Access Arrangement*, *Country Energy Gas* has presented the expenditure forecasts in real terms including market expectations of real wage increases. No real material cost increases have been applied to the forecast operating expenditure for the *Access Arrangement*.

The forecast labour cost escalators have been based on the report prepared by KPMG Econtech for *Country Energy Gas* dated February 2010.

The *Final Decision* for operating expenditure approved for the *Access Arrangement* is set out in Table 23.

\$,000 (real 2009-10)	2010-11	2011-12	2012-13	2013-14	2014-15
Controllable costs					
Network operations and maintenance	1,281	1,317	1,357	1,392	1,422
Marketing	166	156	116	117	117
Direct Gas Network management	398	409	421	432	441
Corporate allocation	408	420	433	444	453
Non controllable costs					
Self insurance	1	1	1	1	1
Debt raising costs	37	38	40	41	42
Unaccounted for gas	538	513	485	460	436
Total operating expenditure	2,829	2,855	2,853	2,888	2,913

Table 23 – Forecast operating expenditure for the Access Arrangement

Refer to chapter 7 of the *Final Decision* for further information.

6.1.1 Network operating and maintenance costs

Network operating and maintenance costs include the direct operating and maintenance costs of operating the *Network*. This category includes such things as *Receipt Point* maintenance, regulator maintenance, leak repairs, inventory and supplies, network engineering, environmental management, technical assurance, training, subscriptions to standards and code preparation bodies, cost of Gas control and network planning, design and scheduling.

6.1.2 Marketing costs

Marketing costs include the cost of *Country Energy Gas*' promotional program, including increases to ensure new properties are connected to the *Network*, and (predominately) the promotion of Gas and Gas appliances to existing *Connections*. *Country Energy Gas* also participates in a state based generic marketing campaign, under the "natural Gas natural choice" program run by the New South Wales natural Gas networks industry group.

The generic marketing campaign was developed two years ago and was offered to network operators in NSW on a shared cost arrangement. The campaign was developed to fill a void created by retailers as retailers were promoting their company brands but were not directly promoting a particular fuel type. The cost structure is based on customer numbers and the Wagga Wagga gas distribution network's share for 2008/09 was \$120,000.

The generic marketing campaign covers the website, media and print advertising, and is focused on the benefits of natural Gas. Advertisements do not promote particular network operators, nor do they use any brands except for the "natural Gas the natural choice" logo. While initially promoting natural Gas as an alternative fuel source and seeking new connections, the latest campaign will be focused on appliances and working with appliance manufacturers.

Country Energy Gas also operates an incentive program across its Gas distribution networks. The program is currently offered to retailers to operate as they have the interface directly with *Customers*. In Wagga Wagga, the incentive program is offered only to existing households that *Connect* to the network and install Gas appliances, as well as those households that are already connected and install additional Gas appliances. New houses in Wagga are not eligible for the incentive program. The incentive program runs across autumn and winter in each calendar year and commenced in autumn 2009. Therefore, only a minor number of payments were made in the 2008/09 base year. The step change in marketing to 2009/10 reflects payments for a full year.

6.1.3 Direct gas network management

Direct Gas Network management costs include the directly attributable costs of managing the Gas Network. Relevant functions include asset management functions, network data and billing, and strategic planning and compliance activities.

Country Energy Gas does not have any fuel compressors that use natural Gas and therefore the annual value is nil. However, *Country Energy Gas* does utilise natural Gas for heating purposes at the gate stations. The annual Quantity of natural Gas used for this purpose is approximately 7TJ and its cost is accounted for in the operating costs of the Gas Network management category.

Gas Network management costs have been allocated to the Network on the basis of its relative share of direct expenditure as a proportion of total Gas Network expenditure.

6.1.4 Corporate allocation

Corporate costs are allocated to *Country Energy Gas* consistent with the AER approved cost allocation method. The corporate allocation includes *Country Energy Gas*' corporate costs which have been allocated to the Network on a causal basis (see below for details). The corporate costs include billing, accounts payable, credit control, call centres, emergency response, finance and accounting, payroll, business development, property management, regulatory affairs, *Customer* relations, and human resources.

The causal basis for allocation means one of the following relationships:

- A directly traceable cause and effect relationship between the item and the provision of the service
- A verifiable relationship between the item and the provision of the services

- A direct relationship with a pool of common costs or revenue, with the allocation of that pool on the basis of a relevant, reliable and verifiable factor.

The manner in which these costs have been allocated to the *Network* is:

- Total corporate costs have been allocated based on the cost allocation method that was approved by the AER as part of the electricity distribution determination, and
- These corporate costs have been allocated between the *Network* and *Country Energy Gas*' uncovered Gas distribution networks based on the *Network*'s share of budgeted direct total costs as a proportion of the total direct costs for all Gas distribution networks.

The small increase between 2008/09 and 2009/10 reflects step changes in several corporate services categories including:

- Health and safety – Increased staff training requirements, increased workplace trainer requirements, changes in work practices within the field to improve safety for employees.
- Learning and development – Skills and competency development programs, assessment validations, course development, competency assessments, project management, leadership development, staff training to achieve competency for field staff, expenditure to address recommendations from a Coroners Inquest in relation to field staff.
- Information services – Upgrades to financial systems and the service desk.

6.1.5 Cost of tax

As part of the post tax nominal framework, a separate allowance must be made in the revenue requirement for corporate income tax, net of the value ascribed to dividend imputation credits. The estimated cost of corporate income tax has been calculated in accordance with the following formula:

$$ETC_t = (ETI_t \times r_t) (1 - \gamma)$$

where:

- ETI_t is an estimate of the taxable income for that regulatory year that would be earned by a benchmark efficient entity as a result of the provision of pipeline services if such an entity, rather than *Country Energy Gas*, operated the business of *Country Energy Gas*, such estimate being determined in accordance with the post-tax revenue model (PTRM)
- r_t is the expected statutory income tax rate for that regulatory year as determined by the AER, and
- γ is the assumed utilisation of imputation credits, which is 0.65.

Refer to chapter 6 of the *Final Decision* for further information about the estimation of gamma and taxation.

6.1.5.1 Forecast Tax Depreciation for the Access Arrangement

In order to move from the pre tax framework of the access arrangement for the *Earlier Access Arrangement Period* to the AER's post tax framework, it is necessary for *Country Energy Gas* to calculate tax depreciation for the *Access Arrangement*. The *Post Tax Revenue Model (PTRM)* provides more information on tax depreciation schedules.

For the purpose of estimating the cost of corporate income tax, *Country Energy Gas* has calculated tax depreciation in accordance with tax law on a straight line basis. Table 24 shows the forecast tax depreciation approved in the *Final Decision*.

\$,000 (nominal)	2010-11	2011-12	2012-13	2013-14	2014-15
Forecast tax depreciation	1,468	1,574	1,677	1,779	1,887

Table 24 – Forecast tax depreciation for the Access Arrangement

Refer to chapter 6 of the *Final Decision* for further information. Note: Table 24 has been amended to correct for an error in the taxation asset base.

The net tax allowance for the *Access Arrangement* as approved in the *Final Decision* is summarised in Table 25. Tax has been estimated using a PTRM and the tax depreciation allowances discussed above.

\$,000 (nominal)	2010-11	2011-12	2012-13	2013-14	2014-15
Tax payable	636	601	645	691	737
Less value of imputation credits	413	391	419	449	479
Net tax allowance	223	210	226	242	258

Table 25 – Tax allowance for the Access Arrangement

Refer to chapter 6 of the *Final Decision* for further information. Note: Table 25 has been amended to correct for an error in the taxation asset base.

6.1.6 Self Insurance

The *Final Decision* approves self insurance operating expenditure as set out in Table 26 below.

\$,000 (real 2009-10)	2010-11	2011-12	2012-13	2013-14	2014-15
Self insurance	1	1	1	1	1

Table 26 – Self Insurance for the Access Arrangement

Refer to chapter 7 of the *Draft Decision* and *Final Decision* for further information.

6.1.7 Debt Raising Costs

The projected debt raising costs for each year over the *Access Arrangement* as approved in the *Final Decision* are summarised in Table 27 below.

\$,000 (real 2009-10)	2010-11	2011-12	2012-13	2013-14	2014-15
Debt raising costs	37	38	40	41	42

Table 27 – Debt raising costs for the *Access Arrangement*

Refer to chapter 7 of the *Draft Decision* and *Final Decision* for further information.

6.1.8 Unaccounted for Gas

The *Final Decision* approves projected *Unaccounted for Gas* costs for each year for the *Access Arrangement Period* as set out in Table 28 below.

\$,000 (real 2009-10)	2010-11	2011-12	2012-13	2013-14	2014-15
Unaccounted for gas	538	513	485	460	436

Table 28 – Unaccounted for gas costs for the *Access Arrangement*

Refer to chapter 7 of the *Draft Decision* and *Final Decision* for further information.

6.1.9 Incentive Mechanism

Country Energy Gas has not included an incentive mechanism in this *Access Arrangement*.

7 TOTAL REVENUE REQUIREMENT AND X FACTORS

7.1 Total revenue requirement

Table 29 contains the the total revenue requirement as set out in the previous sections and the real price adjustments as approved in the *Final Decision* and the decision to vary the access arrangement made on 10 September 2010.

\$,000 (nominal)	2010-11	2011-12	2012-13	2013-14	2014-15
Return on Capital	5,788	6,136	6,529	6,913	7,269
Depreciation	786	633	693	761	848
Operating & maintenance	2,901	3,001	3,074	3,190	3,299
Corporate income tax	223	210	226	242	258
Total	9,698	9,980	10,522	11,106	11,674
X factor tariff revenue^a (%)	-12.81^b	-3.16	-2.50	-2.50	-2.50

a: Negative values for X indicate real price increases under the CPI-X formula.

b: X factor is PO. The PO is unchanged from that approved in April 2010. However, due to an error in the taxation asset base notified by *Country Energy Gas* on 23 August 2010, the increase in the taxation asset base has resulted in an increase in net taxation (refer also to Table 25 for the revised net taxation estimates). The increase in net taxation has resulted in an increase in the total revenue requirement from \$52.7 million (\$nominal) to \$53.0 million (\$nominal) for the *Access Arrangement Period*. In order to recoup this increase in total revenue, the X factor in 2011-12 has changed from -2.5 per cent to -3.16 per cent. The X factors for 2012-13 to 2014-15 remain unchanged.

Table 29 – Forecast total revenue requirements for the *Access Arrangement*

Refer to chapter 8 of the *Final Decision* for further information. Note: Table 29 has been amended to correct for an error in the taxation asset base.

8 REFERENCE TARIFFS AND REFERENCE TARIFF VARIATION MECHANISMS

8.1 Calculation of Reference Tariffs

8.1.1 Allocation of Total Revenue Requirement to Services

The *Final Decision* approves the allocation of total revenue.

Refer to chapter 10 of the *Final Decision* for further information.

Country Energy Gas has not included prudent discounts for any *Customer* in this *Access Arrangement*.

8.1.2 Reference Tariff Structure

The structure of the *Reference Tariffs for Transportation Services* remains fundamentally unchanged from the access arrangement for the *Earlier Access Arrangement Period*, with the exception of the merging of the central and fringe zone tariffs.

The tariff for the *Volume Transportation Service* comprises an *Annual Fixed Charge* based on the flow rate of the *Metering Facilities*, plus a *Volumetric Charge* based on actual Gas deliveries.

The tariff for the *Contract Transportation Service* comprises an *Annual Capacity Charge* (based on *MDQ*), plus a *Monthly Metering Charge* designed to recover the specific costs associated with *meter provision*, *meter reading* and data handling and provision.

8.1.3 Overruns

The *Access Arrangement* continues the current arrangement for charging for *Overruns*.

Overruns are calculated as follows:

- *Users* may apply to have *Overruns* authorised (provided that no more than five authorisations have already been granted in that year) in which case no *Additional Charge* will apply; and
- where more than three unauthorised *Overruns* occur in a month, or a maximum of five unauthorised *Overruns* occur in any one financial year, the *MDQ* will be reset consistent with the highest unauthorised *Overrun*, and hence higher *Capacity Charges* will apply from the month in which the unauthorised *Overruns* occurred.

8.1.4 Unaccounted for Gas

An allowance for the cost of *Unaccounted for Gas* has been included in *Country Energy Gas*' operating expenditure.

8.2 Reference Tariff Variation Mechanism

8.2.1 Form of Price Control

The *Access Arrangement* proposes that *Reference Tariffs* be adjusted in accordance with a tariff basket approach. *Country Energy Gas*' cost of supply model has been designed to equalise forecast revenue from *Reference Services* and apportion total revenue allocations to *Reference Services*. Under this approach:

- individual tariffs and tariff components can move consistent with a weighted average price cap which defines the overall movement in average prices
- average prices are determined by multiplying tariff components by relevant volumes incurred in the previous year

8.2.2 Reference Tariffs

The clause sets out the manner in which *Reference Tariffs* (including *Monthly Metering Charges* and *Additional Services*) will change on 1 July 2011 and 1 July each Year thereafter throughout the *Access Arrangement Period*.

8.2.2.1 Reference Tariff Control Formula

As occurred in the access arrangement for the *Earlier Access Arrangement Period*, *Reference Tariffs* (excluding *Monthly Metering Charges*) will change on 1 July each year (starting from 1 July 2011) in accordance with the following formula:

$$\frac{\sum_{i=1}^n \sum_{k=1}^m p_{ik}^t \times q_{ik}^{t-2}}{\sum_{i=1}^n \sum_{k=1}^m p_{ik}^{t-1} \times q_{ik}^{t-2}} \leq (1 + \Delta CPI_t) \times (1 - X_t) \quad i = 1, \dots, n \text{ and } k = 1, \dots, m.$$

Where:

- p_{ik}^t is the proposed price for component 'k' of the relevant tariff 'l' for the year 't'
- p_{ik}^{t-1} is the actual price for component 'k' of the relevant tariff 'l' for the years 't-1' (being the year which immediately precedes year 't')
- q_{ik}^{t-2} is the audited quantity of component 'k' of the relevant tariff 'l' that was charged by *Country Energy Gas* in year 't-2' (being the year immediately preceding year 't-1')
- X_t is the allowed real change in average prices from year 't-1' to year 't' of the *Access Arrangement Period* in accordance with section 7.1 of the *Access Arrangement Information*
- ΔCPI_t as per the definition in section 13 of the *Access Arrangement*

Side constraints

$$\frac{\sum_{k=1}^m p_k^t \times q_k^{t-2}}{\sum_{k=1}^m p_k^{t-1} \times q_k^{t-2}} \leq (1 + \Delta CPI_t) \times (1 - X_t) \times (1 + 10\%) \quad k = 1, \dots, m.$$

$$\sum_{k=1}^m p_k^{t-1} \times q_k^{t-2}$$

Where: The tariff class has up to 'm' components:

- p_k^t is the proposed price for component 'k' of the relevant tariff 'l' for the year 't'
- p_k^{t-1} is the actual price for component 'k' of the relevant tariff 'l' for the years 't-1' (being the year which immediately precedes year 't')
- q_k^{t-2} is the audited quantity of component 'k' of the tariff that was charged by *Country Energy Gas* in year 't-2'
- x_t is the allowed real change in average prices from year 't-1' to year 't' of the *Access Arrangement Period* in accordance with section 7.1 of the *Access Arrangement Information*. If $X > 0$, then X will be set equal to zero for the purposes of the side constraint formula.
- ΔCPI_t as per the definition in section 13 of the *Access Arrangement*

Amendments to *Reference Tariffs* as a result of a *Pass Through Event* will not be taken into account when determining compliance with the formulas in this section.

8.2.2.2 Monthly Metering Charges and Additional Services

The fees provided in Appendix 2 of the *Access Arrangement for Monthly Metering Charges and Additional Services* will change on 1 July each year by the *Change in the CPI*.

8.2.3 Pass Through Events

Section 12.5 of the *Access Arrangement* outlines costs for the events that may be passed through to *Customers*. These events include:

- Regulatory change event
- Service Standard Change event
- Tax change event
- Terrorism or Natural Disaster event
- Force Majeure
- An Insurance event
- Retail Project event
- Climate Change (Carbon Pollution Reduction Scheme) event; or
- General pass through event

To minimise administrative costs and ensure that *Users* do not have to deal with more than one price change each *year*, changes to tariffs as a result of the *Pass Through Event* occur at the same time as the annual price changes.

9 OTHER MATTERS

9.1 Revisions and Submission Dates

Country Energy Gas has proposed an *Access Arrangement* of 5 years and a *Revisions Submission Date* of 1 July 2014. The *Revisions Commencement Date* will be 1 July 2015.

Refer to chapter 12 of the *Draft Decision* for further information.

9.2 Incentive Mechanism

Country Energy Gas has not included an incentive mechanism in the *Access Arrangement*.

9.3 Extensions/Expansions Policy

Section 7 of the *Access Arrangement* sets out the regulatory arrangements applying to *Extensions* and *Expansions* of the *Network*. It identifies the circumstances under which any *Extensions* to or *Expansions* of the *Network* will be covered and the tariff arrangements to apply to any *Extension* or *Expansion*.

Refer to chapter 12 of the *Final Decision* for further information.

9.4 Capacity Trading

The *Capacity* trading requirements in this *Access Arrangement* are consistent with *NGR 105*.

Refer to Chapter 12 of the *Final Decision* for further information.

10 KEY PERFORMANCE INDICATORS

The projected KPIs for the *Network* are set out in Table 30 below.

\$ (real 2009-10)	2010-11	2011-12	2012-13	2013-14	2014-15
Operating costs/ <i>Customer</i>	118.95	119.36	117.95	118.28	118.79
Operating costs/metre	3.25	3.24	3.19	3.19	3.19

Table 30 – Wagga Wagga Network KPI's for the Access Arrangement