23 December 2003

Dr T G Parry
Chairman
Independent Pricing and Regulatory Tribunal
PO Box Q290
QVB POST OFFICE NSW 1230

Dear Dr Parry,

REVISIONS TO AGLGN's ACCESS ARRANGEMENT AND ACCESS ARRANGEMENT INFORMATION

In accordance with clause 10.2 of AGLGN's Access Arrangement, please find attached a revised:

- Access Arrangement
- Access Arrangement Information
- Addendum to the Access Arrangement, showing GST exclusive prices

Yours sincerely,

David Pringle
Manager Regulatory Affairs, Gas Networks

For and on behalf of AGL Gas Networks Limited

AGL GAS NETWORKS

Access Arrangement for NSW Network

December 2003

AGL Gas Networks Limited
ACN 003 004 322
ABN 87 003 004 322

AGLGN ACCESS ARRANGEMENT

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AGL GAS NETWORKS LIMITED

ACCESS ARRANGEMENT

1 INTRODUCTION

Access Arrangement

AGL Gas Networks Limited ("**AGLGN**") established its 1997 Access Undertaking pursuant to the NSW third party access laws, as they existed at that time, under the Gas Supply Act 1996 (NSW). This Access Arrangement has been formulated pursuant to the National Third Party Access Code for National Gas Pipeline Systems (**the National Code**).

Structure of this Access Arrangement

This Access Arrangement is set out as follows:

Section 1: **Introduction** sets out an overview of this Access Arrangement including its structure, commencement date and revisions date.

Section 2: **Services Policy** describes the Services offered under this Access Arrangement and the procedure to obtain access to the Services.

Section 3: **Reference Tariffs** describes the Reference Tariffs applicable to the Reference Services.

Section 4: **Reference Tariff Policy** describes the principles used to determine the Reference Tariffs, and additional matters regarding New Facilities Investment, Redundant Capital, and Incentive Mechanisms.

Section 5: **Trading Policy** which allows for Bare Transfer, Substituted Transfer and change of Delivery and Receipt Points.

Section 6: **Queuing Policy** describes the order in which capacity will be allocated to Prospective Users where there is insufficient capacity on a transportation route to satisfy all Requests for Service on that route.

Section 7: **Extensions/Expansions Policy** describes the manner in which extensions or expansions to the Network and New Facilities Investment will be dealt with under this Access Arrangement**.**

Section 8: **Capacity Management Policy** specifies that the Network is a contract carriage pipeline rather than a market carriage pipeline for the purposes of the National Code.

Section 9: Asset Register, Capital Contribution Data Base and UAG Audit sets out details of AGLGN's asset register, capital contribution data base and UAG audit report.

Schedules:

Schedule 1: Definitions and Interpretation
Schedule 2: General Terms and Conditions applying to Reference Services
Schedule 2A: All Reference Services
Schedule 2B: Reference Services except Tariff Reference Service
Schedule 3: Gas Balancing
Schedule 4: Operational Principles
Schedule 5: Gas Quality Specification
Schedule 6: Request for Service
Schedule 6B: Request for Service Form
Schedule 7: Sydney, Newcastle and Wollongong Local Network Price Zones, and Postcodes to which Trunk Exist Zones apply
Schedule 8: Receipt Point Pressures

Supporting information is provided in the Access Arrangement Information that has been submitted as a separate document.

Commencement of this Access Arrangement

The Access Arrangement will commence on the date on which the approval of the Relevant Regulator takes effect under Section 2 of the National Code.

Revisions of this Access Arrangement

AGLGN will submit revisions to this Access Arrangement on or before 30 June 2009 ("**Revisions Submissions Date**").

The revisions to this Access Arrangement will commence on the latter of 1 July 2010 and the date on which the approval by the Relevant Regulator of the revisions to the Access Arrangement takes effect under the National Code ("**Revisions Commencement Date**").

2 SERVICES POLICY

Introduction

AGLGN offers the following Services:

(a) seven Reference Services;

(b) Interconnection of Embedded Networks service; and

(c) Negotiated Services.

Reference Services

The seven Reference Services are:

1.	**Capacity Reservation Service**	–	Section 2.1
2.	**Managed Capacity Service**	–	Section 2.2
3.	**Throughput Service**	–	Section 2.3
4.	**Multiple Delivery Point Service**	–	Section 2.4
5.	**Tariff Service**	–	Section 2.5
6.	**Meter Data Service**	–	Section 2.6
7.	**Gas Swap Service**	–	Section 2.7

Non Reference Services

1.	**Interconnection of Embedded Network Services**	–	Section 2.8
2.	**Negotiated Services**	–	Section 2.9

Availability of Reference Services

The seven Reference Services are offered separately on each of the Local Network and the Trunk (except for the Meter Data Service which is available only with the Local Network Reference Service and the Gas Swap Service which is available only to Users of Trunk non-tariff Reference Services).

The Reference Services are available to Users to transport gas, obtain Meter Data Services or obtain Gas Swap Services if the following criteria are satisfied:

(a) All Local Network Reference Services – to Delivery Points existing on the Network where Reference Services are provided at the date this Access Arrangement takes effect;

(b) Capacity Reservation Service, Managed Capacity Service, and Throughput Service on the Local Network— to new Delivery Points served from facilities where the maximum allowable operating pressure is less than or equal to 1,050 kPa and where the MDQ is no less than ten times the MHQ;

(c) Local Network Tariff Service – to new Delivery Points served from facilities where the maximum allowable operating pressure is less than or equal to 500kPa;

(d) Meter Data Service – to any Delivery Point for which the User has a Local Network Reference Service. AGL may cease to offer this service as a Reference Service if Meter Data Services become contestable;

(e) Trunk Reference Services – Reference Service corresponding to each of the Reference Services (other than a Meter Data Service) described in relation to the Local Network is offered from a Trunk Receipt Point to a Local Network Receipt Point. These Reference Services can be taken either as a forward haul or back haul from any Trunk Receipt Point to any Trunk Exit Zone. In the Wilton-Newcastle and Wilton-Wollongong Network Sections, every Local Network Reference Service (other than a Meter Data Service) must have a corresponding Trunk Reference Service. This requirement does not apply to Local Network Reference Services in the Wilton-Wollongong Network Section where Users are served by the Local Network Receipt Point established at Port Kembla with the Eastern Gas Pipeline; and

(f) Gas Swap Services – to any User of Trunk non-tariff Reference Services on the Wilton-Newcastle Network Section.

Requests for Services

The procedures to be followed by a User seeking to obtain a Reference Service, Interconnection of Embedded Network Service, or Negotiated Service are set out in Schedule 6.

An offer made in response to a Request is subject to the Queuing Policy as set out in Section 6.

Service Agreements

All Users of a Service will be required to enter into a Service Agreement specific to that User and that Service.

REFERENCE SERVICES

2.1 Capacity Reservation Service

2.1.1 Local Network Capacity Reservation Service

General

A Local Network Capacity Reservation Service is a service for the transportation of gas by AGLGN from the Local Network Receipt Point through the Local Network to a single Non-Tariff Delivery Point, including options for Summer Tranche Capacity and Short Term Capacity, with Charges determined on the basis of capacity reservation ($ per GJ of MDQ) and Charges payable for Overruns.

Section 2.1.1 contains the terms and conditions applicable to a Local Network Capacity Reservation Service and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B;

(b) the gas balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Local Network Capacity Reservation Service is available to any single Delivery Point where a Customer is reasonably expected to withdraw a quantity of gas exceeding 10TJ per Contract Year.

- Subject to the following, in the Wilton-Newcastle and Wilton-Wollongong Network Sections, the Local Network Capacity Reservation Service can only be taken in conjunction with a corresponding Trunk Capacity Reservation Service.

- The requirement to have a corresponding Trunk Capacity Reservation Service does not apply to Local Network Capacity Reservation Services in the Wilton-Wollongong Network Section where Users are served by the Local Network Receipt Point at Port Kembla established with the Eastern Gas Pipeline.

- The Local Network Capacity Reservation Service is only available where all Services to the Delivery Point are Local Network Capacity Reservation Services.

Delivery Point/Receipt Point

- The Local Network Receipt Point for each Delivery Point will be determined in accordance with the Table in Section 3.3 and/or Schedule 7, except for the Wilton-Wollongong Network Section where Users must nominate either the Local Network

Receipt Point at Wollongong established with the Wilton-Wollongong Trunk Section or the Local Network Receipt Point at Port Kembla established with the Eastern Gas Pipeline.

MDQ and MHQ

- Users will be required to specify a level of MHQ and MDQ for each Contract Year which fairly reflects the maximum Hourly and Daily requirements at the Delivery Point, based on prior consumption where that information is available.

- AGLGN's obligation to deliver gas to the Delivery Point is limited to the MHQ in any Hour and MDQ on any Day.

- Where:

    - new equipment is commissioned at a new or existing Delivery Point; or

    - daily metering has not been installed at a Delivery Point at the commencement of a Service Agreement,

  the User may increase the MDQ specified in the Service Agreement once. An increase to the MDQ must be made within three months of the later of the commencement date of the Service Agreement and the date on which daily metering data became available. An increase will be subject to the Queuing Policy. An increase in MDQ will be deemed to take effect from the commencement date of the Service Agreement.

Overruns

- An Overrun will occur if withdrawals at the Delivery Point exceed the MHQ in any Hour or the MDQ on any Day. Overruns may be authorised or unauthorised.

- A charge will be payable in respect of an Overrun on MDQ.

Metering

- Basic Metering Equipment will be provided in accordance with the conditions in Schedule 2A.

- Where AGLGN offers a Meter Data Service as a Reference Service, the Local Network Capacity Reservation Service must be taken in conjunction with the Meter Data Service.

Term

The term of the Service will be a minimum of one year and a maximum of two years from the commencement of the Service to the Delivery Point, as specified by the User at the time of entering into the Service Agreement.

Summer Tranche Capacity

- A User may increase the MDQ for periods of one or more whole months between 1 October and 30 April inclusive during the term of the Service Agreement, commencing on the first day of any such month ("**Summer Tranche Capacity**").

- The User must request Summer Tranche Capacity in accordance with Schedule 6 and availability of the capacity will be subject to the Queuing Policy.

- AGLGN will respond to any request for Summer Tranche Capacity within 10 Business Days of the date of receipt of a completed Request for Service under Schedule 6.

Short Term Capacity

Short Term Capacity is an increase in the MDQ for a minimum of 1 week and a maximum of 4 weeks in weekly increments ("**Short Term Capacity**").

Short Term Capacity for Users supplying Customers below 30TJ per annum at a Delivery Point

- Users supplying a Customer at a single Delivery Point which is reasonably expected to withdraw 30TJ or less per Contract Year may obtain Short Term Capacity for such Delivery Point on the terms set out below:

    - The Customer at that Delivery Point must use gas primarily for production of goods (this option is not available where the Customer uses gas primarily for space heating).

- Where the Customer is at an existing Delivery Point at 31 December 2003[1], a User may only request Short Term Capacity in respect of that Customer where the MDQ reservation is not less than 95 per cent of the MDQ reservation in the transportation service agreement prior to 31 December 2003.

- In all other cases, a User may only request Short Term Capacity in respect of that Customer where the MDQ reservation in any year of the Access Arrangement which is not the first Contract Year under a Capacity Reservation Service is not less than 95 per cent of the MDQ reservation in the first Contract Year of the Capacity Reservation Service.

    - There must be a minimum separation of 30 days between the end of a Short Term Capacity period and the commencement of the next Short Term Capacity period.

    - Short Term Capacity must not exceed 8 weeks in any 12 month period.

    - The User must request Short Term Capacity in accordance with Schedule 6 and the availability of the Short Term Capacity will be subject to the Queuing Policy. Where there is a queue for available capacity, requests for Short Term Capacity have lowest priority.

[1] That is, it is a Delivery Point which is supplied under a transportation service or negotiated service under the Access Arrangement 2000 for supply of gas at the date of the revisions submission date as set out in the Access Arrangement dated September 2000, as amended by the Relevant Regulator.

- Users must provide evidence of a one-off production requirement. A signed statement from the Customer is sufficient.

- A Request for a Short Term Capacity booking can be made no more than 1 month in advance of the proposed commencement date.

- AGLGN will respond to a Request for Short Term Capacity within 5 Business Days except where a Request involves an increase in the MHQ such that the total MHQ requirement would exceed the capacity of the metering facilities. In the latter case the normal Request for Service process and timeframes will apply.

- A Short Term Capacity Charge (premium) will be payable.

- Notwithstanding that a Request for Short Term Capacity is accepted, the User will be liable for and indemnify AGLGN against all losses, liabilities and expenses incurred as a result of the User exceeding the MDQ applicable at the time it utilised the capacity unless the capacity was taken at that time as an Authorised Overrun.

Short Term Capacity for Users Supplying Customers above 30TJ per annum at a Delivery Point

- Users supplying a Customer at a single Delivery Point which is reasonably expected to withdraw an amount in excess of 30TJ per Contract Year may obtain Short Term Capacity for such Delivery Points on the terms set out below:

    - A User may increase the MDQ to cover the Customer's reasonable requirements during periods of equipment failure, commissioning or additional production following equipment failure, and events such as the re-firing of furnaces after re-builds or at start-ups after non-scheduled plant maintenance, where such activity occurs less frequently than once every year.

    - Short Term Capacity is available, subject to AGLGN being reasonably satisfied that the increased MDQ is required to meet the criteria above.

    - The User must request Short Term Capacity in accordance with Schedule 6 and the availability of the Short Term Capacity will be subject to the Queuing Policy in Section 6. Any Request for Short Term Capacity must be accompanied by a signed statement from the Customer outlining the reasons for the request.

    - Request for Short Term Capacity may be made in advance or at any time within one month after the capacity or any part of it has been used by the User.

    - Where a Request for Short Term Capacity is accepted after the capacity or any part of it has been used by the User, a charge will be payable by the User in respect of an Overrun on the quantity of gas in excess of the MDQ and Short Term Capacity used at the Delivery Point.

    - Notwithstanding that a Request for Short Term Capacity is accepted, the User will be liable for and indemnify AGLGN against all losses, liabilities and expenses

incurred as a result of the User exceeding the MDQ applicable at the time it utilised the capacity unless the capacity was taken at that time as an Authorised Overrun.

Additional Capacity

Additional Capacity is an increase in the MDQ other than a Summer Tranche Capacity or Short Term Capacity for a minimum of one year ("**Additional Capacity**").

Where a Delivery Point is served under a Local Network Capacity Reservation Service Agreement, any Service Agreement for Additional Capacity for that Delivery Point during the term of the existing Service Agreement must:

- relate to a Local Network Capacity Reservation Service;
- have a term of at least one year; and
- have either the same commencement date or the same termination date as the existing tranche of capacity under the Service Agreement (excluding any Summer Tranche Capacity or Short Term Capacity).

A Request for Additional Capacity may be made in advance or at any time up to the first Business Day of the month after the first month in which the Additional Capacity or part of it is used by the User.

If the Term for the Local Network Capacity Reservation Service for the Delivery Point is less than two Contract Years, that Term may be extended to no more than two Contract Years, calculated from the commencement date of the Local Network Capacity Reservation Service so that the expiry date for the Local Network Capacity Reservation Service is the same as the expiry date for the Additional Capacity requested.

Where a Request for Additional Capacity is accepted after the Additional Capacity or part of it has been used by the User:

- the Request will be deemed to take effect from the first day of the month during which the Additional Capacity or part of it is first used (the "**Retrospective Date**");
- the Charge for MDQ will be payable by the User from the commencement date of the Additional Capacity, notwithstanding that it may be earlier than the Retrospective Date;
- a charge will be payable by the User in respect of an Overrun incurred as a result of the User exceeding:

  (i) the MDQ (excluding the Additional Capacity requested) prior to the Retrospective Date; and
  (ii) the MDQ (including the Additional Capacity requested) on or after the Retrospective Date.

- Except as provided above, a charge will be payable by the User in respect an Overrun on the quantity of Gas in excess of the MDQ (excluding the Additional Capacity Requested), up until the later of the date AGLGN agrees to the Request and the date of commencement of the Additional Capacity.

- Notwithstanding that a Request for Additional Capacity is accepted, the User will be liable for and indemnify AGLGN against all losses, liabilities or expenses incurred as a result of the User exceeding the MDQ applicable at the time it utilised the Additional Capacity, unless the Additional Capacity was taken at that time as an Authorised Overrun.

Charges

There are five categories of Charges for a Local Network Capacity Reservation Service all of which are specified in Section 3:

(a) General charges:

(i)	Charge for MDQ	–	Section 3.1.1
(ii)	Provision of Basic Metering Equipment	–	Section 3.1.2

(b) Overrun Charges – Section 3.13

(c) Gas Balancing Charges – Section 3.14

(d) Charges for Ancillary Services – Section 3.15

(e) Short Term Capacity Charge – Section 3.1.3

2.1.2 Trunk Capacity Reservation Service

General

A Trunk Capacity Reservation Service is a service for the transportation of gas by AGLGN through the Trunk from the Trunk Receipt Point to the Trunk Exit Zone for the Nominated Delivery Point.

Section 2.1.2 contains the terms and conditions applicable to a Trunk Capacity Reservation Service and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B;

(b) the gas balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Trunk Capacity Reservation Service is available as forward haul or back haul from any Trunk Receipt Point to any Trunk Exit Zone.
- The Trunk Capacity Reservation Service is only available in conjunction with a corresponding Local Network Capacity Reservation Service.

Nominated Delivery Point

- Users will be required to specify the Nominated Delivery Point in respect of which the Trunk Capacity Reservation Service is taken.
- The quantity of gas withdrawn at the Nominated Delivery Point will be deemed to be the quantity of gas withdrawn by the User at the Trunk Exit Zone.
- The User must specify a single Receipt Point for each Nominated Delivery Point.
- The Trunk Exit Zone for each Nominated Delivery Point is referenced in Section 3.3.

MDQ and MHQ

- The MHQ and MDQ specified in the Corresponding Local Network Service will apply, including where the MDQ is increased as the result of commissioning of new equipment or installation of daily metering.
- AGLGN's maximum obligation to deliver gas to the Trunk Exit Zone is MHQ in any Hour and MDQ on any Day.

Overruns

- An Overrun will be deemed to have occurred if withdrawals at the Nominated Delivery Point exceed the MHQ in any Hour or the MDQ on any Day for that Delivery Point. Overruns may be authorised or unauthorised, and an Authorised Overrun at the Nominated Delivery Point will be deemed to be an Authorised Overrun for the purposes of the Trunk Service.

- A charge will be payable in respect of an Overrun on MDQ calculated on the overrun quantity at the Nominated Delivery Point.

Term

The term of the Service will be the term of the Corresponding Local Network Service.

Summer Tranche Capacity, Short Term Capacity and Additional Capacity

Where the User takes Summer Tranche Capacity, Short Term Capacity or Additional Capacity under the Corresponding Local Network Service, the MDQ under the Trunk Capacity Reservation Service Agreement will be amended accordingly.

Charges

There are four categories of Charges for a Trunk Capacity Reservation Service each of which are specified in Section 3:

(a)	Charge for MDQ	–	Section 3.3
(b)	Overrun Charges	–	Section 3.13
(c)	Short Term Capacity Charge	–	Section 3.3.2
(d)	Gas Balancing Charges	–	Section 3.14

2.2 Managed Capacity Services

2.2.1 Local Network Managed Capacity Service

General

A Local Network Managed Capacity Service is a service for the transportation of gas by AGLGN from a Local Network Receipt Point through the Local Network to a single Non-Tariff Delivery Point with charges determined on the basis of capacity reservation ($ per GJ per MDQ) and no charges payable for Overruns. The MDQ must usually be equal to or greater than the maximum quantity of gas withdrawn at the Delivery Point on any Day in the previous 12 months.

Section 2.2.1 contains the terms and conditions applicable to a Local Network Managed Capacity Service and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B;

(b) the gas balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Local Network Managed Capacity Service is available to any single Delivery Point where a Customer is reasonably expected to withdraw a quantity of gas exceeding 10TJ per Contract Year.

- Subject to the following, in the Wilton-Newcastle and Wilton-Wollongong Network Section, the Local Network Managed Capacity Service can only be taken in conjunction with a corresponding Trunk Managed Capacity Service.

- The requirement to have a corresponding Trunk Managed Capacity Service does not apply to Local Network Managed Capacity Services in the Wilton-Wollongong Network Section where Users are served by the Local Network Receipt Point at Port Kembla established with the Eastern Gas Pipeline.

- The Local Network Managed Capacity Service is only available where the Delivery Point has had daily metering information available for Measuring Equipment at all Delivery Stations at the Delivery Point for a period of more than 14 months prior to the commencement date of the Local Network Managed Capacity Service.

- The Local Network Managed Capacity Service is only available where all Services to the Delivery Point are Local Network Managed Capacity Services.

Delivery Point/Receipt Point

- The Local Network Receipt Point for each Delivery Point will be determined in accordance with the Table in Section 3.3 and/or Schedule 7, except for the Wilton-Wollongong Network Section where Users must nominate either the Local Network Receipt Point at Wollongong established with the Wilton-Wollongong Trunk Section or the Local Network Receipt Point at Port Kembla established with the Eastern Gas Pipeline.

MDQ and MHQ

- Users will be required to establish a level of MHQ which reflects the maximum Hourly requirement at the Delivery Point, based on prior consumption where that information is available.

- Users will be required to specify a level of MDQ which reflects the maximum Daily requirement at the Delivery Point and is equal to or greater than the Previous Maximum Quantity.

- AGLGN's maximum obligation to deliver gas to the Delivery Point is MHQ in any Hour, and MDQ on any Day.

Overruns

- An Overrun will have occurred if withdrawals at the Delivery Point exceed the MHQ in any Hour or the MDQ on any Day. Overruns may be authorised or unauthorised.

- There will be no Overrun charges payable for an Overrun.

Metering

- Basic Metering Equipment will be provided in accordance with the conditions in Schedule 2A.

- Where AGLGN offers a Meter Data Service as a Reference Service, the Local Network Managed Capacity Service must be taken in conjunction with the Meter Data Service.

Term

The term of the Service will be one year from the commencement of the Service to the Delivery Point.

Charges

There are three categories of Charges under a Local Network Managed Capacity Service all of which are specified in Section 3:

(a) General charges:

(i)	Charge for MDQ	–	Section 3.1.1
(ii)	Provision of Basic Metering Equipment	–	Section 3.1.2

(b) Gas Balancing Charges – Section 3.14

(c) Charges for Ancillary Services – Section 3.15

2.2.2 Trunk Managed Capacity Service

General

A Trunk Managed Capacity Service is a service for the transportation of gas by AGLGN through the Trunk from a Trunk Receipt Point to a Trunk Exit Zone for the Nominated Delivery Point.

Section 2.2.2 contains the terms and conditions applicable to a Trunk Capacity Reservation Service and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B;

(b) the gas balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Trunk Managed Capacity Service is available as forward haul or back haul from any Trunk Receipt Point to any Trunk Exit Zone.
- The Trunk Managed Capacity Service is only available in conjunction with a corresponding Local Network Managed Capacity Service.

Nominated Delivery Point

- Users will be required to specify the Nominated Delivery Point in respect of which the Trunk Managed Capacity Service is taken.

- The quantity of gas withdrawn at the Nominated Delivery Point will be deemed to be the quantity of gas withdrawn by the User at the Trunk Exit Zone.
- The User must specify a single Receipt Point for each Nominated Delivery Point.
- The Trunk Exit Zone for each Nominated Delivery Point is referenced in Section 3.3.

MDQ and MHQ

- The MHQ and MDQ specified in the Corresponding Local Network Managed Capacity Service will apply.
- AGLGN's maximum obligation to deliver gas to the Trunk Exit Zone is MHQ in any Hour and MDQ on any Day.

Overruns

- An Overrun will be deemed to have occurred if withdrawals at the Nominated Delivery Point exceed the MHQ in any Hour or the MDQ for that Delivery Point on any Day. Overruns may be authorised or unauthorised, and an Authorised Overrun at the Nominated Delivery Point will be deemed to be an Authorised Overrun for the purposes of the Trunk Service.
- There will be no Overrun charges payable for an Overrun.

Term

- The term of the Service will be the term of the Corresponding Local Network Service.

Charges

There are two categories of Charges for a Trunk Managed Capacity Service specified in Section 3:

(a)	Charge for MDQ	–	Section 3.3
(b)	Gas Balancing Charges	–	Section 3.14

2.3 Throughput Services

2.3.1 Local Network Throughput Service

General

A Local Network Throughput Service is a service for the transportation of gas by AGLGN from the Local Network Receipt Point through the Local Network to a single Non-Tariff Delivery Point with Charges determined on the basis of throughput ($ per GJ of throughput), no charges payable for Overruns and a minimum annual bill based on 10TJ per annum.

Section 2.3.1 contains the terms and conditions applicable to a Local Network Throughput Service and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B;

(b) the gas balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Local Network Throughput Service is available to any single Delivery Point where a Customer is reasonably expected to withdraw a quantity of gas exceeding 10TJ per Contract Year.

- Subject to the following, in the Wilton-Newcastle and Wilton-Wollongong Network Section, the Local Network Throughput Service can only be taken in conjunction with a corresponding Trunk Throughput Service.

- The requirement to have a corresponding Trunk Throughput Service does not apply to Local Network Throughput Services in the Wilton-Wollongong Network Section where Users are served by the Local Network Receipt Point at Port Kembla established with the Eastern Gas Pipeline.

- The Local Network Throughput Service is only available where all Services to the Delivery Point are Local Network Throughput Services.

Delivery Point/Receipt Point

- The Local Network Receipt Point for each Delivery Point will be determined in accordance with the Table in Section 3.3 and/or Schedule 7, except for the Wilton-Wollongong Network Section where Users must nominate either the Local Network Receipt Point at Wollongong established with the Wilton-Wollongong Trunk Section or the Local Network Receipt Point at Port Kembla established with the Eastern Gas Pipeline.

MDQ and MHQ

- Users will be required to specify a level of MHQ and MDQ which fairly reflects the maximum Hourly and Daily requirements at the Delivery Point, based on prior consumption where that information is available.

- AGLGN's maximum obligation to deliver gas to the Delivery Point is MHQ in any Hour and MDQ on any Day.

- Where the User withdraws less than 10TJ of gas in any Contract Year, the User will pay for delivery of 10TJ of gas in that Contract Year (calculated on a pro-rata basis as if the consumption had been equal in each Month during the Contract Year).

Overruns

- An Overrun will have occurred if withdrawals at the Delivery Point exceed the MHQ in any Hour or the MDQ on any Day. Overruns may be authorised or unauthorised.

- There will be no Overrun charges payable for an Overrun.

Metering

- Basic Metering Equipment will be provided in accordance with the conditions in Schedule 2A.

- Where AGLGN offers a Meter Data Service as a Reference Service, the Local Network Throughput Service must be taken in conjunction with the Meter Data Service.

Term

The term of the Service will be one year from the commencement of the Service to the Delivery Point.

Charges

There are three categories of Charges under a Local Network Throughput Service all of which are specified in Section 3:

(a) General charges:

(i)	Throughput Charge	–	Section 3.2.1
(ii)	Provision of Basic Metering Equipment	–	Section 3.2.2

(b) Gas Balancing Charges – Section 3.14

(c) Charges for Ancillary Services – Section 3.15

2.3.2 Trunk Throughput Service

General

A Trunk Throughput Service is a service for the transportation of gas by AGLGN from the Trunk Receipt Point through the Trunk to the Trunk Exit Zone.

Section 2.3.2 contains the terms and conditions applicable to a Trunk Throughput Service and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B;

(b) the gas balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Trunk Throughput Service is available as forward haul or back haul from any Trunk Receipt Point to any Trunk Exit Zone.
- The Trunk Throughput Service is only available in conjunction with a corresponding Local Network Throughput Service.

Nominated Delivery Point

- Users will be required to specify the Nominated Delivery Point in respect of which the Trunk Throughput Service is taken.
- The quantity of gas withdrawn at the Nominated Delivery Point will be deemed to be the quantity of gas withdrawn at the Trunk Exit Zone.
- The User must specify a single Receipt Point for each Nominated Delivery Point.
- The Trunk Exit Zone for each Nominated Delivery Point is referenced in Section 3.4.

MDQ and MHQ

- The MHQ and MDQ specified in the Corresponding Local Network Service will apply.
- AGLGN's maximum obligation to deliver gas to the Trunk Exit Zone is MHQ in any Hour and MDQ on any Day.

Overruns

- An Overrun will be deemed to have occurred if withdrawals at the Nominated Delivery Point exceed the MHQ in any Hour or the MDQ for that Delivery Point on any Day. Overruns may be authorised or unauthorised, and an Authorised Overrun at the

Nominated Delivery Point will be deemed to be an Authorised Overrun for the purposes of the Trunk Service.

- There will be no Overrun charges payable for an Overrun.

Term

The term of the Service will be the term of the Corresponding Local Network Service.

Charges

There are two categories of Charges for a Trunk Throughput Service specified in Section 3:

(a) Throughput Charge – Section 3.4

(b) Gas Balancing Charges – Section 3.14

Where the User withdraws less than 10TJ of gas in any Contract Year, the User will pay for delivery of 10TJ of gas in that Contract Year (calculated on a pro-rata basis as if the consumption had been equal in each Month during the Contract Year).

2.4 Multiple Delivery Point Services

2.4.1 Local Network Multiple Delivery Point Service

General

A Local Network Multiple Delivery Point Service is a service for the transportation of gas by AGLGN from one or more Local Network Receipt Points through the Local Network to a number of Non-Tariff Delivery Points for a single User. The User must nominate each Delivery Point as subject to the conditions applying to a Capacity Reservation Service, a Managed Capacity Service or a Throughput Service.

Section 2.4.1 contains the terms and conditions applicable to a Local Network Multiple Delivery Point Service. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B;

(b) the gas balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Local Network Multiple Delivery Point Service is available to any User which requires Reference Services to multiple Delivery Points, as an alternative to the User entering into separate Service Agreements in respect of each of those Delivery Points.

Receipt Points/ Delivery Points

- The Delivery Points will be listed in a Schedule to the Service Agreement[2].
- Each Delivery Point will be identified as being either a Capacity Reservation Service Delivery Point, a Managed Capacity Service Delivery Point or a Throughput Service Delivery Point.
- Additional Delivery Points can be added to the Service Agreement at any time prior to the Revisions Commencement Date.

Term

- The Service Agreement will remain in force for so long as there is a Delivery Point listed in the Schedule.

Applicable Terms and Conditions

The terms and conditions applying to Services under the Local Network Multiple Delivery Point Services Agreement will be those applicable to the type of Service nominated for that Delivery Point.

Charges

The Charges applying to Services under the Local Network Multiple Delivery Point Services Agreement will be those applicable to the type of Service nominated for that Delivery Point.

2.4.2 Trunk Multiple Delivery Point Service

General

A Trunk Multiple Delivery Point Service is a service for the transportation of gas by AGLGN from Trunk Receipt Points through the Trunk to Trunk Exit Zones for multiple Corresponding Local Network Services.

[2] A single Delivery Point may appear in the Schedule more than once — for example, where there are two tranches of capacity for one Delivery Point.

Section 2.4.2 contains the terms and conditions applicable to a Trunk Multiple Delivery Point Service. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B;

(b) the gas balancing arrangement in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Trunk Multiple Delivery Point Service is available to any User which requires transportation of gas to Trunk Exit Zones for multiple Corresponding Local Network Services, as an alternative to the User entering into separate Service Agreements in respect of each of those Services.

Nominated Delivery Points

- If a Nominated Delivery Point is added under a Corresponding Local Network Multiple Delivery Point Service, the Service Agreement will be amended to accurately reflect the addition of that Nominated Delivery Point.

- Additional Nominated Delivery Points can be added to the Service Agreement at any time prior to the Revisions Commencement Date.

- The User must specify a single Receipt Point for each Nominated Delivery Point.

Term

The Service Agreement will remain in force for so long as there is a Corresponding Local Network Multiple Delivery Point Service Agreement in force.

Applicable Terms and Conditions

The terms and conditions applying to Services under the Trunk Multiple Delivery Point Service Agreement will be those applicable to the type of Service nominated for the Nominated Delivery Point.

Charges

The Charges applying to Services under the Trunk Multiple Delivery Point Service Agreement will be those applicable to the type of Service nominated for the Nominated Delivery Point.

2.5 Tariff Services

2.5.1 Local Network Tariff Service

General

A Local Network Tariff Service is a service for the transportation of gas by AGLGN from a Local Network Receipt Point through the Local Network to a Tariff Delivery Point.

Section 2.5.1 contains the terms and conditions applicable to a Local Network Tariff Service and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A;

(b) the gas balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Local Network Tariff Service is available to any User which requires Local Network Tariff Service to one or more Tariff Delivery Points.

- The Local Network Tariff Service is available to any Delivery Point where a Customer is reasonably expected to withdraw a quantity of gas less than 10TJ per Contract Year.

- Subject to the following, in the Wilton-Newcastle and Wilton-Wollongong Network Section, the Local Network Tariff Service can only be taken in conjunction with a corresponding Trunk Tariff Service.

- The requirement to have a corresponding Trunk Tariff Service does not apply to Local Network Tariff Services in the Wilton-Wollongong Network Section where Users are served by the Local Network Receipt Point at Port Kembla established with the Eastern Gas Pipeline.

MHQ

- For any new Delivery Point where the MHQ is expected to exceed $6m^3$/Hour, Users will be required to specify a level of MHQ which fairly reflects the maximum hourly requirement at the Delivery Point.

- AGLGN's maximum obligation to deliver gas to a Delivery Point is:

  - MHQ in any Hour; or

  - for a Delivery Point where there is no requirement to specify MHQ, as required up to a maximum of $6m^3$/Hour.

Overruns

- An Overrun will have occurred if withdrawals at the Tariff Delivery Point exceed the MHQ in any Hour. Overruns may be authorised or unauthorised.

- There will be no Overrun charges payable for an Overrun.

Metering

- Basic Metering Equipment will be provided in accordance with the conditions in Schedule 2A.

- Where AGLGN offers a Meter Data Service as a Reference Service, the Local Network Tariff Service must be taken in conjunction with the Meter Data Service.

Receipt Points/ Delivery Points

- The User will provide AGLGN with a list in an electronic or other agreed form nominating the Tariff Delivery Points to which the Tariff Service is to be provided.

- The User may from time to time add Tariff Delivery Points to the list, in accordance with the access procedures set out Schedule 6.

- The User may at any time delete a Tariff Delivery Point from the Service Agreement by giving at least three Business Days notice to AGLGN.

- The Local Network Receipt Point for each Delivery Point will be determined in accordance with the Table in Section 3.3 and/or Schedule 7, except for the Wilton-Wollongong Network Section where Users must nominate either the Local Network Receipt Point at Wollongong established with the Wilton-Wollongong Trunk Section or the Local Network Receipt Point at Port Kembla established with the Eastern Gas Pipeline.

Term

- The term of the Service Agreement for Local Network Tariff Services will be from the Commencement Date until the earlier of the Revisions Commencement Date or the date on which all Delivery Points have been deleted from the Schedule annexed to the Service Agreement, or such other date as agreed by AGLGN and the User.

- If a User wishes to continue to receive Local Network Tariff Services beyond the Revisions Commencement Date, the User will be required to enter into a Services Agreement effective as at the date of the Revisions Commencement Date.

Charges

There are three categories of Charges under a Local Network Tariff Service each of which are specified in Section 3:

(a) General charges

(i)	Throughput Charge	–	Section 3.5.1
(ii)	Fixed Charge	–	Section 3.5.2
(iii)	Provision of Basic Metering Equipment	–	Section 3.5.3

(b) Gas Balancing Charges – Section 3.14

(c) Charges for Ancillary Services – Section 3.15

Alternative Tariff Structure

- Subject to the requirements of the National Code, AGLGN may from time to time offer an alternative Local Network tariff structure which Users may, in their complete discretion, accept or decline. If Users accept the alternative Local Network tariff structure, that tariff structure will be substituted for the tariffs otherwise payable in the manner and for the period set out in the alternative Local Network tariff structure.

- Any alternative Local Network tariff structure offered by AGLGN:

  - will be available to all Users or Prospective Users of the Local Network Tariff Service during the period for which the alternative Local Network Tariff Service structure is offered;

  - will be structured such that the average tariff under the alternative Local Network tariff structure does not exceed the average Reference Tariff established under the Access Arrangement for the Local Network Tariff Service; and

  - may be conditional on all Users of the Local Network Tariff Service accepting the offer.

2.5.2 Trunk Tariff Service

General

A Trunk Tariff Service is a service for the transportation of gas by AGLGN from one or more Trunk Receipt Points through the Trunk to one or more Trunk Exit Zones for a Corresponding Local Network Service.

Section 2.5.2 contains the terms and conditions applicable to a Trunk Tariff Service and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A;

(b) the gas balancing arrangement in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Trunk Tariff Service is available as forward haul or back haul from any Trunk Receipt Point to any Trunk Exit Zone.
- The Trunk Tariff Service is only available in conjunction with a corresponding Local Network Tariff Service.

Nominated Delivery Point

- Users will be required to specify the Nominated Delivery Points in respect of which transportation is taken under the Trunk Tariff Service.
- The quantity of gas withdrawn at the Nominated Delivery Point will be deemed to be the quantity of gas withdrawn by the User at the Trunk Exit Zone.
- The User must specify a single Receipt Point for each Nominated Delivery Point.
- The User will provide AGLGN with a list in an electronic or other agreed form nominating the Nominated Delivery Points to which the Tariff Service is to be provided.
- The User may from time to time add Nominated Delivery Points to the list, in accordance with the access procedures set out Schedule 6.
- The User may at any time delete a Nominated Delivery Point from the Service Agreement by giving at least three Business Days notice to AGLGN.

MHQ

- The MHQ (if any) specified under the Local Network Tariff Service will apply.

Overruns

- An Overrun will have occurred if withdrawals at the Tariff Delivery Point exceed the MHQ in any Hour. Overruns may be authorised or unauthorised.

- There will be no Overrun charges payable for an Overrun.

Term

- The Term of the Service will be the term of the Corresponding Local Network Service.

- If a User wishes to continue to receive Trunk Tariff Services beyond the Revisions Commencement Date, the User will be required to enter into a Services Agreement effective as at the date of the Revisions Commencement Date.

Charges

There are two categories of Charges for a Trunk Tariff Service which is specified in Section 3:

(a)	Trunk Tariff Service Charge	–	Section 3.6
(b)	Gas Balancing Charges	–	Section 3.14

Alternative Tariff Structure

- Subject to the requirements of the National Code, AGLGN may from time to time offer an alternative Trunk tariff structure which Users may, in their complete discretion, accept or decline. If Users accept the alternative Trunk tariff structure, that tariff structure will be substituted for the tariffs otherwise payable in the manner and for the period set out in the alternative Trunk tariff structure.

- Any alternative Trunk tariff structure offered by AGLGN:

    - will be available to all Users or Prospective Users of the Trunk Tariff Service during the period for which the alternative Trunk Tariff Service structure is offered;

    - will be structured such that the average tariff under the alternative Trunk Tariff Service structure does not exceed the average Reference Tariff established under the Access Arrangement for the Trunk Tariff Service; and

    - may be conditional on all Users of the Trunk Tariff Service accepting the offer.

2.6 Meter Data Service

General

A Meter Data Service is a service for the provision of meter reading and on-site data and communication equipment to a Delivery Point under a Reference Service Agreement.

AGLGN will read the meter at a Delivery Point in respect of which the User has entered into a Local Network Reference Service Agreement.

Section 2.6 contains the terms and conditions applicable to Meter Data Service and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B;

(b) the gas balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Additional eligibility requirements

This Reference Service, or relevant elements thereof, will cease to be offered as a Reference Service, and at AGLGN's discretion, as a Service, on the date of the enactment of provisions under the Gas Retail Market Business Rules that permits the provision of meter reading or on-site data and communication by a person other than AGLGN.

Terms and Conditions

Availability

- AGLGN will provide on-site data and communication equipment where economically feasible, at a Non-Tariff Delivery Point in respect of which the User has entered into a Local Network Reference Service Agreement.

Term

- The term of any Meter Data Service will be from the commencement date of the Services until the expiry date of the Local Network Reference Services for that Delivery Point, or the termination date under the Meter Data Service Agreement, which will be no later than the termination of the Local Network Reference Services for the Delivery Point.

Metering for Non Tariff Delivery Points

- Quantities of gas passing through the meter each Day will be recorded by AGLGN and the information in relation to such quantities will be accessible by AGLGN, the User and other persons as permitted by the User, at the User's cost, or in accordance with the requirements of the National Code.

- Where technically and commercially feasible, AGLGN will provide a communication system at the Delivery Point to enable daily reading of the meter. Where there are no on-site data facilities and no communication facilities at a Delivery Point, AGLGN will read meters monthly in accordance with the meter reading cycle adopted for that locality and class of Delivery Station. Where there are on-site data facilities but no communication facilities at a Delivery Point, AGLGN will collect daily meter readings monthly in accordance with the meter reading cycle adopted for that locality and class of Delivery Station.

- If the User requires more immediate metering information than the daily information which AGLGN will make available under the above paragraph, the User may, at its expense, take information directly from the Measuring Equipment. Any connection made to the Measuring Equipment by the User must be made in accordance with the manufacturer's specification, and must be made in such a way as not to interfere with the proper operation of the Network Measuring Equipment.

Metering for Tariff Delivery Points

- Where the quantity of gas delivered to a Tariff Delivery Point is expected to be greater than 1TJ per Year, AGLGN will read the meter(s) at the Delivery Point each 30 Days (plus or minus two Days).

- Where the quantity is expected to be less than 1TJ per Year, AGLGN will read the meter(s) at the Delivery Point each 91 Days (plus or minus four Days). For specific Delivery Points, AGLGN and the User may agree that the meter will be read at different frequencies.

- AGLGN will from time to time nominate a cycle in which meters at Tariff Delivery Points will be read. AGLGN will consult with the User prior to any change to the cycle and will not vary the reading cycle unreasonably or without giving reasonable notice.

- The User may request AGLGN to vary AGLGN's reading cycle for any Delivery Point, and AGLGN will advise whether it agrees to such request and at what cost.

- AGLGN will provide the User with details of the meters and meter readings in writing if so requested or otherwise in such format as AGLGN nominates, and will provide such details within seven Business Days of the date of reading the meter.

Charges

There are two categories of Charges under a Meter Data Service specified in Section 3:

(a) Meter Reading Charge – Section 3.7

(b) Provision of On Site Data and Communication Equipment Charge – Section 3.8

2.7 Gas Swap Services

General

The Gas Swap Service is a service provided by AGLGN which entitles Users of Trunk non-tariff Reference Services to have gas delivered at an Alternate Receipt Point on a Day, or transfer gas from one User (the "**Transferor of the Gas"**) to another User (the "**Recipient of the Gas**") on a Day, after that gas has been delivered to the Network. A Gas Swap does not vary a User's Capacity entitlement under any Service.

Section 2.7 contains the terms and conditions applicable to Gas Swap Services and lists the applicable Reference Tariffs. These terms and conditions are in addition to:

(a) the general terms and conditions in Schedule 2A and Schedule 2B; and

(b) the Gas Balancing arrangements in Schedule 3; and

(c) the operational principles in Schedule 4.

Terms and Conditions

Availability

- The Gas Swap Service is available to Users of Trunk non-tariff Reference Services that wish to deliver gas at an Alternate Receipt Point on a Day, and/or that wish to transfer gas to or from another User on a Day, after that gas has been delivered to the Network.

- The Gas Swap Service is available in conjunction with any Trunk Reference Service except a Trunk Tariff Service.

Gas Swap Service

- Under a Gas Swap Service:

    - where one or two Users complete a Receipt Point Swap, AGLGN will accept a nominated quantity of gas to the Network at an Alternate Receipt Point on a Day, for transportation under a Service Agreement from the Principal Receipt Point (recognising a transfer of title to that gas between the Transferor of the Gas and the Recipient of the Gas at the Principal Receipt Point, in the case of two Users); or

    - where two users complete a User Swap, AGLGN will accept a nominated quantity of gas to the Network at the Principal Receipt Point on a Day, recognising the transfer of title between the Transferor of the Gas and the Recipient of the Gas at that Receipt Point (the Principal Receipt Point for the Recipient of the Gas).

Notification

- Users will be required to notify AGLGN of an intended Gas Swap prior to the commencement of the Day in accordance with the timetable and formats specified by AGLGN[3].

- Where a Gas Swap is between two Users, the Transferor of the Gas must notify AGLGN proposing a Gas Swap, and the Recipient of the Gas must notify AGLGN accepting the Gas Swap. AGLGN is not obliged to acknowledge Gas Swaps where the Transferor of the Gas and the Recipient of the Gas notifications proposing and accepting a Gas Swap are not consistent and directly reciprocal transactions or where information is provided in formats or timetables other than as specified by AGLGN.

User Swaps and Receipt Point Swaps within the same Trunk Zone

- Where the Principal Receipt Point is within the same Trunk Zone as the Receipt Point at which gas is received into the Network, a Gas Swap request will be accepted by AGLGN if the requirements outlined above under 'Notification' have been met and if:

    - the Transferor of the Gas has arrangements in place for receipt of gas into the Network at that Receipt Point under one or more non-tariff transportation services; and

    - the Recipient of the Gas[4] has arrangements in place for the transportation of gas through the Network from the Principal Receipt Point; and

    - the aggregate of nominations by all Users for delivery to the Network at the Receipt Point at which gas is delivered to the Network on that Day does not exceed operational limitations of the Network.

Receipt Point Swaps across different Trunk Zones

Where the Alternate Receipt Point and the Principal Receipt Point are in different Trunk Zones, a Gas Swap request will be accepted by AGLGN if the requirements outlined above under 'Notification' have been met and if:

- the Transferor of the Gas has a Service Agreement(s) in place for receipt of gas into the Network at the Alternate Receipt Point under non-tariff services; and

- for the Day of the Gas Swap, the aggregate of the total quantity of gas to be delivered to the Network in any Trunk Zone by the Transferor of the Gas (excluding any gas balancing adjustments and tariff withdrawal requirements) plus any other quantities of gas to be transported on that Trunk Zone under non-tariff trunk services on behalf of the Transferor of the Gas, does not exceed the aggregate MDQ of all non-tariff trunk services of the Transferor of the Gas for transportation on that Trunk Zone; and

[3] Where a user is party to more than one Gas Swap on a day, each Gas Swap must be individually notified to AGLGN

[4] Receipt Point Swaps for a single User must meet both this and the previous requirement.

- the Recipient of the Gas has arrangements in place for the transportation of gas through the Network from the Principal Receipt Point[5].

Gas Balancing

- Users are responsible for the timing and coordination of Gas Swap notifications and gas balancing nominations (made in accordance with Schedule 3) to ensure that their daily withdrawal requirements and completed Gas Swaps reflect their arrangements for delivery of gas to Receipt Points for each Day. The User will be liable for and indemnifies AGLGN against any costs, penalties, expenses or any other loss or damage suffered or incurred by AGLGN arising from a Gas Swap, whether the Gas Swap is accepted or not accepted by AGLGN for a particular Day.

Term

- The term of the Service will expire on the expiry date of the User's last remaining Trunk non-tariff Reference Service.

Charges

There are two categories of Charges payable for a Gas Swap Service specified in Section 3:

(a)	Gas Swap Transaction Charge	–	Section 3.9
(b)	Gas Balancing Charges	–	Section 3.14

Where a Gas Swap is between two Users, the Gas Swap Transaction Charge is payable by the Transferor of the Gas.

[5] Receipt Point Swaps for a single User must meet both this and the previous two requirements.

NON REFERENCE SERVICES

2.8 Interconnection of Embedded Network Service

General

Interconnection of Embedded Network Service is a service provided by AGLGN for the establishment of a single Delivery Point on an Embedded Network on either the Trunk or the Local Network.

Section 2.8 contains the terms and conditions applicable to Interconnection of Embedded Networks services and lists the charges payable.

Terms and Conditions

Availability

- The Interconnection of Embedded Network Service is available to any Embedded Network Operator to establish a single Delivery Point connected to an Embedded Network.

- A Prospective User of an Interconnection of Embedded Network Service may request AGLGN to provide and maintain an interconnection between a Delivery Point on the Network and a pipe or system of pipes constructed and operated by that Embedded Network Operator.

MDQ and MHQ

- The Embedded Network Operator will be required to specify an annual quantity, MHQ and MDQ which fairly reflects the maximum annual, Hourly and Daily requirements at the Delivery Point, as well as the 24 hour profile of hourly flow based on prior consumption where that information is available.

- AGLGN's maximum obligation to deliver gas to the Delivery Point under transportation agreements with all Users is the MHQ in any Hour and the MDQ on any Day specified by the Embedded Network Operator.

Metering

- AGLGN will provide Measuring Equipment for the Delivery Point.

- Measuring Equipment will be designed to accurately measure the quantities specified by the Embedded Network Operator and will provide daily meter reading.

- The Measuring Equipment will be commissioned on the commencement of the first transportation service to the Embedded Network Delivery Point on behalf of any User. The Measuring Equipment will be decommissioned when there is no agreement with any User requiring transport to the Delivery Point.

Authorisation of Embedded Network

- The Embedded Network Operator must have all relevant authorisations and must enter into an agreement with AGLGN for an Interconnection of Embedded Network service. For the absence of doubt, an Interconnection of Embedded Network Service is separate from and additional to a Service(s) requested by a User for the transportation of gas through the Network to the Embedded Network Delivery Point.

Delivery Station and Delivery Point

- The location of the Embedded Network Delivery Point on the Network will be agreed to by the Embedded Network Operator and AGLGN. AGLGN will only withhold its agreement to a location sought by the Embedded Network Operator on the basis of technical, operational or safety considerations.

- The hot tap connection to connect the delivery station to the Network will be designed and constructed in accordance with AGLGN's usual standards and requirements, including AS2885.

- The delivery station will comprise metering facilities sufficient to accurately measure the flow over the full range of anticipated flow conditions and will be designed and constructed in accordance with AGLGN's usual standards and requirements, including AS2885. If the hot tap connection is located at a point on the Network where the maximum allowable operating pressure is above 1,050kPa, the Delivery Station will include a remotely controlled isolation valve.

- Unless otherwise specified by AGLGN, the Delivery Point between the Network and the Embedded Network Operator's pipe or system of pipes will be at the flange immediately downstream of the Delivery Station described above.

- All facilities upstream of the outlet flange of the delivery station will be installed, owned and operated by AGLGN at the reasonable cost of the Embedded Network Operator.

- All facilities downstream of the outlet flange of the delivery station will be the responsibility of the Embedded Network Operator.

- Modification of the Delivery Station and hot tap connection to the Network which are required as a result of changes in the flow conditions through the Embedded Network Delivery Point will be made by AGLGN at the reasonable cost of the Embedded Network Operator unless AGLGN has recovered the costs from Users of the Embedded Network Delivery Point.

Load Shedding

- The Embedded Network Operator will be subject to load shedding arrangements. The Embedded Network Operator must have facilities available to it to reduce or discontinue the withdrawal of Gas if called upon to do so.

- Unless there is an agreement on load shedding between AGLGN and the Embedded Network Operator the Embedded Network Operator will be subject to Load Shedding priority 2 as described in Schedule 4. Network transportation services for the delivery of

Gas to the Embedded Network Delivery Point will be subject to the same Load Shedding priority.

- The Embedded Network Operator will participate in gas balancing arrangements if required.

Cathodic Protection of Facilities

- The Embedded Network Operator must design, install, and operate, any cathodic protection system necessary to protect its facilities at its own cost. Cathodic protection facilities must be installed in such a manner as to avoid any interference which may be detrimental to AGLGN's facilities and must be electrically isolated from AGLGN's facilities.

Installation and Operation

- In the interests of safety and ensuring the integrity of AGLGN's pre-existing facilities, the Embedded Network Operator must cooperate with AGLGN to establish, in a timely manner, appropriate arrangements and procedures for the safe installation and operation of the Embedded Network Operator's facilities, and for the management of emergency situations involving those facilities and the Network.

Abandonment/Disconnection

- In the event that facilities cease to be used to take Gas at the Embedded Network Delivery Point then AGLGN will at the Embedded Network Operator's expense ensure that the facilities are disconnected and isolated from AGLGN's facilities. This requirement does not apply where the cessation of use is temporary.

Approvals and Indemnity

- The Embedded Network Operator will provide AGLGN with evidence that it has fulfilled all applicable statutory requirements and that it holds all necessary permits and licences in relation to its facilities downstream of the Embedded Network Delivery Point. That evidence must be provided before the commencement of any service to the Delivery Point.

- The Embedded Network Operator will be liable for and indemnify AGLGN against any claim of liability in relation to or arising out of those facilities.

Charges

The following charges will be agreed between the Embedded Network Operator and AGLGN:

(i) Charge for engineering investigation
(ii) Charge for provision of interconnection facilities
(iii) Provision of Measuring Equipment

2.9 Negotiated Services

- Where a Prospective User has specific needs which differ from those which would be satisfied by a Reference Service or other Services described in this Section 2, the Prospective User may seek to negotiate different terms and conditions as a Negotiated Service.

- Should a dispute arise, it will be resolved in accordance with the dispute resolution procedures in the Gas Pipelines Access Law and the National Code, unless the parties agree otherwise.

3 REFERENCE TARIFFS

Reference Tariffs have been determined from the forecast cost of service throughout the regulatory period as set out in the Access Arrangement Information. The cost of service in the Access Arrangement Information and the numerical values for Reference Tariffs in Section 3 are expressed in 2004/05 dollars assuming CPI of 2.75% per annum for both 2003/04 and 2004/05.

Although the cost of service and Reference Tariffs should be adjusted to reflect actual CPI for the two relevant years, in practice as prices need to be determined prior to the commencement of any given year, Reference Tariffs in Section 3 will be adjusted for the difference between 2.75% and the actual CPI for the twelve months to March 2004 and subsequent to that in accordance with Section 3, part 3E.

The Reference Tariffs shown in this section are inclusive of GST. A full schedule of prices in 2004/2005 dollars exclusive of GST is attached to the Access Arrangement as an addendum and forms part of the Access Arrangement Information (but does not form part of the Access Arrangement). The schedule will be updated each year and published by AGLGN.

PART 3A: REFERENCE TARIFFS FOR SERVICES RELATED TO NON-TARIFF DELIVERY POINTS

3.1 General Charges: Local Network Capacity Reservation Service and Local Network Managed Capacity Service

The general charges for the Local Network Capacity Reservation Service and the Local Network Managed Capacity Service are:

(a) Charge for MDQ (see Section 3.1.1); and

(b) Provision of Basic Metering Equipment (see Section 3.1.2)

3.1.1 Charge for MDQ

The Charge for MDQ is the lesser of:

(a) the Charge for MDQ under Section 3.1.1.1; and

(b) the Capped Charge for MDQ in Section 3.1.1.2.

3.1.1.1 Charge for MDQ

- The Charge for MDQ is the Annual Unit Charge for Capacity multiplied by MDQ, or corresponding MDQc if applicable. The MDQc is applicable where the Local Network Receipt Point is situated on the Network Section other than the Wilton-Newcastle or the Wilton-Wollongong Network Section.

- The Annual Unit Charge for Capacity is calculated differently for Local Network Receipt Points situated on the Wilton-Newcastle or Wilton-Wollongong Network Sections, and all other Network Sections.

- Where a Service is taken from a Local Network Receipt Point situated on the Wilton-Newcastle Network Section or the Wilton-Wollongong Network Section, the Annual Unit Charge for Capacity will be the Local Network Unit Charge.

- Where a Service is taken from a Local Network Receipt Point situated on any other Network Section, the Annual Unit Charge for Capacity will be the sum of the Local Network Unit Charge and a Pressure Reduction Unit Charge.

3.1.1.1.A Charge for MDQ (*Annual Unit Charge for Capacity*) - Local Network Receipt Points situated on the Wilton-Newcastle Network Section or the Wilton-Wollongong Network Section

- The Annual Unit Charge for Capacity will be the Local Network Unit Charge.

- The Local Network Unit Charge is determined by the LN Zone in which the Delivery Point is located.

- The LN Zone in which current non-Tariff Delivery Points are located is determined by reference to Tables A, B and C below.

The Local Network Unit Charges expressed in real 2004/2005 dollars ($GJ/MDQ per annum) for the LN Zones in the Sydney, Newcastle/Central Coast and Wollongong areas are:

Sydney

Local Network Unit Charge for Sydney - $/GJ of MDQ per annum in real 2004/2005 dollars [6]						
	Period Ending 30 June 2005	Period Ending 30 June 2006	Period Ending 30 June 2007	Period Ending 30 June 2008	Period Ending 30 June 2009	Period Ending 30 June 2010
LN Zone 1						
First 200GJ of booked MDQ	176.622	177.129	177.639	178.149	178.660	179.202
Next 400GJ of booked MDQ	105.973	106.277	106.583	106.889	107.196	107.522
Next 1000GJ of booked MDQ	70.649	70.851	71.056	71.260	71.464	71.680
Next 2000GJ of booked MDQ	52.986	53.139	53.292	53.445	53.599	53.760
Rest	35.324	35.426	35.528	35.630	35.732	35.840
LN Zone 2						
First 200GJ of booked MDQ	210.762	210.511	210.298	210.107	209.890	209.667
Next 400GJ of booked MDQ	126.457	126.308	126.179	126.063	125.934	125.800
Next 1000GJ of booked MDQ	84.305	84.205	84.119	84.042	83.955	83.866
Next 2000GJ of booked MDQ	63.229	63.153	63.089	63.032	62.967	62.900
Rest	42.152	42.103	42.060	42.021	41.978	41.933
LN Zone 3						
First 200GJ of booked MDQ	302.930	300.879	298.883	296.910	295.032	293.358
Next 400GJ of booked MDQ	181.759	180.528	179.330	178.146	177.019	176.014
Next 1000GJ of booked MDQ	121.173	120.352	119.554	118.764	118.012	117.344
Next 2000GJ of booked MDQ	90.879	90.264	89.665	89.073	88.509	88.008
Rest	60.586	60.176	59.776	59.382	59.006	58.672
LN Zone 4						
First 200GJ of booked MDQ	508.505	503.019	497.860	492.808	487.967	483.164
Next 400GJ of booked MDQ	305.103	301.811	298.716	295.684	292.780	289.898
Next 1000GJ of booked MDQ	203.402	201.208	199.144	197.123	195.186	193.266
Next 2000GJ of booked MDQ	152.551	150.906	149.358	147.842	146.390	144.949
Rest	101.701	100.604	99.572	98.561	97.593	96.633
LN Zone 5[7]						
First 200GJ of booked MDQ	2977.961	2945.865	2914.072	2882.024	2848.968	2815.478
Next 400GJ of booked MDQ	1786.776	1767.520	1748.443	1729.214	1709.381	1689.287
Next 1000GJ of booked MDQ	1191.185	1178.346	1165.629	1152.810	1139.587	1126.191
Next 2000GJ of booked MDQ	893.388	883.760	874.222	864.608	854.690	844.644
Rest	595.592	589.173	582.814	576.404	569.793	563.096

[6] The charges in this Table are inclusive of GST.
[7] Capped Charge for MDQ is expected to apply to all customers in this zone.

Newcastle/Central Coast

Local Network Unit Charge for Newcastle/Central Coast – $/GJ of MDQ per annum in real 2004/2005 dollars [8]

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1						
First 200GJ of booked MDQ	80.348	79.770	79.234	78.717	78.191	77.673
Next 400GJ of booked MDQ	48.210	47.862	47.541	47.230	46.915	46.604
Next 1000GJ of booked MDQ	32.140	31.908	31.693	31.486	31.276	31.070
Next 2000GJ of booked MDQ	24.104	23.931	23.770	23.615	23.458	23.302
Rest	16.070	15.954	15.847	15.743	15.639	15.534
LN Zone 2						
First 200GJ of booked MDQ	344.020	341.037	338.223	335.447	332.605	330.031
Next 400GJ of booked MDQ	206.412	204.623	202.934	201.268	199.563	198.019
Next 1000GJ of booked MDQ	137.608	136.415	135.289	134.179	133.042	132.012
Next 2000GJ of booked MDQ	103.205	102.311	101.466	100.635	99.782	99.009
Rest	68.804	68.208	67.645	67.089	66.521	66.007
LN Zone 3[9]						
First 200GJ of booked MDQ	768.571	756.626	745.158	733.918	722.682	712.198
Next 400GJ of booked MDQ	461.142	453.976	447.094	440.351	433.610	427.319
Next 1000GJ of booked MDQ	307.428	302.651	298.063	293.567	289.073	284.879
Next 2000GJ of booked MDQ	230.571	226.988	223.548	220.175	216.805	213.660
Rest	153.714	151.325	149.031	146.784	144.537	142.440

[8] The charges in this Table are inclusive of GST.
[9] Capped charge for MDQ is expected to apply to some customers in this zone.

Wollongong

Local Network Unit Charge for Wollongong – $/GJ of MDQ per annum in real 2004/2005 dollars[10]

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1						
First 200GJ of booked MDQ	30.960	31.412	31.862	32.311	32.758	33.202
Next 400GJ of booked MDQ	18.576	18.846	19.117	19.388	19.655	19.921
Next 1000GJ of booked MDQ	12.384	12.564	12.745	12.925	13.103	13.280
Next 2000GJ of booked MDQ	9.288	9.424	9.559	9.693	9.827	9.961
Rest	6.192	6.282	6.372	6.463	6.552	6.641
LN Zone2						
First 200GJ of booked MDQ	136.051	138.249	140.438	142.619	144.761	146.879
Next 400GJ of booked MDQ	81.631	82.950	84.263	85.572	86.856	88.128
Next 1000GJ of booked MDQ	54.420	55.300	56.175	57.048	57.904	58.751
Next 2000GJ of booked MDQ	40.816	41.474	42.131	42.786	43.428	44.064
Rest	27.211	27.650	28.087	28.524	28.952	29.376
LN Zone3[11]						
First 200GJ of booked MDQ	2038.993	2093.333	2148.885	2205.821	2263.732	2322.914
Next 400GJ of booked MDQ	1223.396	1256.000	1289.331	1323.493	1358.239	1393.748
Next 1000GJ of booked MDQ	815.597	837.333	859.554	882.329	905.493	929.166
Next 2000GJ of booked MDQ	611.698	628.000	644.666	661.747	679.119	696.874
Rest	407.799	418.667	429.777	441.164	452.747	464.583

[10] The charges in this Table are inclusive of GST.
[11] Capped charge for MDQ is expected to apply to all customers in this zone.

TABLE A: LN Zones for Sydney area

LN Zone	Postcodes[12] and Localities
1	2164, 2171, 2761, 2762, 2766, Appin
2	2141, 2142, 2143, 2144, 2145, 2147, 2148, 2161, 2163, 2165, 2166, 2170, 2565, 2750, 2760
3	2006, 2007, 2015, 2017, 2019, 2020, 2033, 2036, 2040, 2044, 2046, 2050, 2112, 2113, 2115, 2116, 2128, 2136, 2137, 2138, 2140, 2146, 2151, 2152, 2157, 2173, 2190, 2199, 2200, 2204, 2205, 2211, 2212, 2214, 2216, 2217, 2560, 2566, 2747, 2755, 2756, 2765
4	2000, 2009, 2010, 2011, 2018, 2022, 2031, 2032, 2035, 2039, 2064, 2065, 2066, 2067, 2111, 2120, 2122, 2154, 2196, 2208, 2220, 2228, 2229, 2231, 2232, 2777
5	2028, 2076, 2077, 2080, 2085, 2095, 2099, 2100, 2103, 2780

A diagrammatic representation of the zone structure in this Table is set out in Schedule 7, but in the event of any inconsistency between the Table and Schedule 7, this Table will apply.

TABLE B: LN Zones For Newcastle/Central Coast

LN Zone	Postcodes[13]
1	2250, 2285, 2304, 2308, 2322
2	2256, 2259, 2260, 2261, 2262, 2294, 2298, 2305, 2320, 2323, 2326
3	2290, 2300, 2314, 2324, 2325, 2330

A diagrammatic representation of the zone structure in this Table is set out in Schedule 7, but in the event of any inconsistency between the Table and Schedule 7, this Table will apply.

TABLE C: LN Zones For Wollongong

Wollongong LN Zone	Postcode[14] or Locality
1	2505-BHP
2	2500, 2505, 2526
3	2516, 2527

A diagrammatic representation of the zone structure in this Table is set out in Schedule 7, but in the event of any inconsistency between the Table and Schedule 7, this Table will apply.

[12] The Table contains those postcodes relevant to Non-Tariff Delivery Points existing as at 1 January 2004. Postcodes are based on the postcodes used by AGLGN for pricing purposes in the Access Arrangement dated September 2000. Postcodes applicable to specific Delivery Points should be verified with AGLGN and may vary from postcodes specified by Australia Post.

[13] The Table contains those postcodes relevant to Non-Tariff Delivery Points existing as at 1 January 2004. Postcodes are based on the postcodes used by AGLGN for pricing purposes in the Access Arrangement dated September 2000. Postcodes applicable to specific Delivery Points should be verified with AGLGN and may vary from postcodes specified by Australia Post.

[14] The Table contains those postcodes relevant to Non-Tariff Delivery Points existing as at 1 January 2004. Postcodes are based on the postcodes used by AGLGN for pricing purposes in the Access Arrangement dated September 2000. Postcodes applicable to specific Delivery Points should be verified with AGLGN and may vary from postcodes specified by Australia Post.

3.1.1.1.B Charge for MDQ (Annual Unit Charge for Capacity) - Other Network Sections

- The Annual Unit Charge for Capacity will be the sum of a Pressure Reduction Unit Charge and a Local Network Unit Charge.

- The Pressure Reduction Unit Charge and the Local Network Unit Charge will be determined in relation to an adjusted MDQ (MDQ_c) calculated in accordance with the following formula:

$$MDQ_c = (f_1 \times MDQ_{block1} + f_2 \times MDQ_{block2} + f_3 \times MDQ_{block3} + f_4 \times MDQ_{block4} + f_5 \times MDQ_{block5})$$

The scaling factors for the MDQ blocks are:

MDQ Blocks		Factor
Block 1	First 200 GJ/Day	$f_1 = 1$
Block 2	Next 400 GJ/Day	$f_2 = 0.6$
Block 3	Next 1000GJ of booked MDQ	$f_3 = 0.4$
Block 4	Next 2000GJ of booked MDQ	$f_4 = 0.3$
Block 5	Rest	$f_5 = 0.2$

The *Pressure Reduction Unit Charges* (expressed as \$/GJ of MDQ_c per annum in real 2004/2005 dollars[15]) are as follows:

Period ending 30 June 2005	11.617
Year ending 30 June 2006	11.515
Year ending 30 June 2007	11.422
Year ending 30 June 2008	11.340
Year ending 30 June 2009	11.264
Year ending 30 June 2010	11.194

[15] The charges in this Table are inclusive of GST.

The *Local Network Unit Charge* = Country Unit Charge x Distance

where:

Country Unit Charge (expressed as $ /GJ of MDQ_c per annum/km in real 2004/2005dollars[16]) is as follows:

Period ending 30 June 2005	43.461
Year ending 30 June 2006	43.187
Year ending 30 June 2007	42.956
Year ending 30 June 2008	42.821
Year ending 30 June 2009	42.688
Year ending 30 June 2010	42.624

Distance is the distance in kilometres from the relevant POTS or TRS, rounded to the nearest 0.5km. For Delivery Points located within 0.5km of the POTS or TRS, Distance is 0.5km.

3.1.1.2 Capped Charge for MDQ

A User may request a Capped Charge for MDQ for a Customer. The User must in requesting a Capped Charge for MDQ nominate an annual consumption quantity[17] for that Customer, which AGLGN may adjust in a reasonable manner based on the historical usage pattern of the Customer, and which adjusted figure will be the annual quantity for the Customer (the "**Annual Quantity**").

The Capped Charge for MDQ is determined by dividing the Capped Revenue, by the MDQ[18] reserved in the Service Agreement[19] (or corresponding MDQc, if applicable), and then subtracting the Charge for MDQ for any Trunk Service to that Delivery Point.

The Capped Revenue is calculated by applying the relevant capped rate and the annual quantity block structure set out in the Table below to the Annual Quantity, and subtracting the provision of Basic Metering Equipment Charge from that total, (the "**Capped Revenue**").

The Capped Charge for MDQ will be recalculated at the anniversary of the commencement date of the Service Agreement between the User and AGLGN and, if requested by the User, on one other occasion during the term of the agreement.

Any recalculation of the Capped Charge for MDQ will take effect on the anniversary of the commencement date or the first day of the Month commencing after the date of request (whichever is applicable), and will not have any retrospective application.

[16] The charges in this Table are inclusive of GST.

[17] Where sufficient historical consumption data exists, the Annual Quantity will be the quantity metered at the Delivery Point during the 12 months prior to the date 2 months before the date from which the Capped Charge is to be applied, rounded up to the nearest 0.5TJ.

[18] Excluding any Short Term Capacity or Summer Tranche Capacity.

[19] For Users with Managed Capacity Service, the MDQ (or corresponding MDQc, if applicable) for the purpose of this calculation will be replaced by the ninth highest actual withdrawal during the 12 months ending 2 months prior to the date from which the Capped Charge is to be applied.

The annual quantity block structure and relevant capped rate (in real 2004/2005 dollars[20]) are:

Annual Quantity Block Structure	Relevant Capped Rate $/GJ Equivalent (2004/2005 Dollars)
First 20 TJ p.a.	4.69
Next 30 TJ p.a.	3.82
All additional	3.23

- The Charge for MDQ and the Capped Charge for MDQ will be escalated in accordance with Section 3.10.

3.1.2 Provision of Basic Metering Equipment Charge[21]

The Provision of Basic Metering Equipment Charges is determined on the basis of the type of metering device installed at the Delivery Point.

Meter Set Type Typical/Alternative Meter	Provision of Basic Metering Equipment Charge in $ per annum expressed in real 2004/2005 dollars[22]					
	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Single Run & Bypass						
AL-425	851	851	851	851	851	851
AL-800/AL-1000/AL-1400	1,782	1,782	1,782	1,782	1,782	1,782
AL-2300/Roots3m	2,478	2,478	2,478	2,478	2,478	2,478
Romet RM140/AL-5000/Roots 5m	2,990	2,990	2,990	2,990	2,990	2,990
Roots 7m	4,574	4,574	4,574	4,574	4,574	4,574
Roots 16M/Roots 11M	5,465	5,465	5,465	5,465	5,465	5,465
Singer 4GT/Rockwell AT-18/Instromet G400	6,483	6,483	6,483	6,483	6,483	6,483
Singer 6GT/Rockwell AT-30	9,308	9,308	9,308	9,308	9,308	9,308
Singer 8GT/Rockwell AT-60	11,021	11,021	11,021	11,021	11,021	11,021
Singer 12GT	18,904	18,904	18,904	18,904	18,904	18,904
Double Run (& Bypass)						
AL-2300	4,952	4,952	4,952	4,952	4,952	4,952
AL-5000/Roots 5m	5,942	5,942	5,942	5,942	5,942	5,942
Roots 7m	8,687	8,687	8,687	8,687	8,687	8,687
Roots 16M/Roots 11M	10,063	10,063	10,063	10,063	10,063	10,063
Singer 4GT/Rockwell AT-18	12,152	12,152	12,152	12,152	12,152	12,152
Singer 6GT/Rockwell AT-30	17,157	17,157	17,157	17,157	17,157	17,157
Singer 8GT/Rockwell AT-60	21,293	21,293	21,293	21,293	21,293	21,293

[20] The charges in this Table are inclusive of GST.
[21] Charges for new types of metering devices introduced during the Access Arrangement will be determined on an equivalent size and functionality basis.
[22] The charges in this Table are inclusive of GST.

Meter Set Type Typical/Alternative Meter	**Provision of Basic Metering Equipment Charge in $ per annum expressed in real 2004/2005 dollars**[22]					
	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Singer 12GT/Rockwell T140/Instromet 12"g4000	35,652	35,652	35,652	35,652	35,652	35,652
Double Run & Shunt (Shunt Meter to size)						
6GT + S	19,116	19,116	19,116	19,116	19,116	19,116
8GT + S	23,563	23,563	23,563	23,563	23,563	23,563
12GT + S	39,563	39,563	39,563	39,563	39,563	39,563
Single Run & Shunt or Double Run (different Meters) – requiring special charges						
Roots 7M + AL425	5,258	5,258	5,258	5,258	5,258	5,258
Roots 16M + AL1400	6,692	6,692	6,692	6,692	6,692	6,692
4GT + AL1400	10,305	10,305	10,305	10,305	10,305	10,305
6GT + AL 1400	10,380	10,380	10,380	10,380	10,380	10,380
6GT + AL5000	11,207	11,207	11,207	11,207	11,207	11,207

3.1.3 Short Term Capacity Charge

The Short Term Capacity Charge is determined by applying the premium for the period during which the Short Term Capacity is reserved as set out in the Table below to the Charge for MDQ for the additional MDQ reserved as Short Term Capacity:

Period of Additional Capacity	**Premium**
1 Week	20%
2 Weeks	15%
3 Weeks	10%
4 Weeks	0%

3.2 General Charges: Local Network Throughput Service

The general charges for the Throughput Service are:

(a) Throughput Charge (see Section 3.2.1); and

(b) Provision of Basic Metering Equipment (see Section 3.2.2).

3.2.1 Throughput Charge

- The LN Zones are determined in accordance with Section 3.1.
- The Throughput Charge is the throughput unit rate multiplied by the quantity of gas (GJ) delivered to a Delivery Point.

Sydney Local Network Throughput Charges ($/GJ) in real 2004/2005 dollars [23]

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1	2.903	2.912	2.921	2.928	2.937	2.946
LN Zone 2	3.465	3.461	3.457	3.454	3.451	3.446
LN Zone 3	4.980	4.946	4.913	4.881	4.850	4.822
LN Zone 4	5.159	5.159	5.159	5.159	5.159	5.159
LN Zone 5	5.159	5.159	5.159	5.159	5.159	5.159

Newcastle/Central Coast Local Network Throughput Charges ($/GJ) in real 2004/2005 dollars [24]

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1	1.321	1.311	1.302	1.294	1.285	1.277
LN Zone 2	5.159	5.159	5.159	5.159	5.159	5.159
LN Zone 3	5.159	5.159	5.159	5.159	5.159	5.159

[23] The charges in this Table are inclusive of GST
[24] The charges in this Table are inclusive of GST

Wollongong Local Network Throughput Charges ($/GJ) in real 2004/2005 dollars[25]

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1	0.509	0.516	0.524	0.531	0.539	0.546
LN Zone 2	2.236	2.273	2.309	2.344	2.379	2.415
LN Zone 3	5.159	5.159	5.159	5.159	5.159	5.159

- The Throughput Charge for other Network Sections expressed in real 2004/2005 dollars ($/GJ) are given in the Table below.

Other Network Sections LN Throughput Charges ($/GJ) in real 2004/2005 dollars[26]

Distance	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
0.5	0.548	0.545	0.541	0.538	0.536	0.535
1	0.905	0.899	0.894	0.890	0.887	0.884
1.5	1.263	1.254	1.247	1.242	1.238	1.235
2	1.620	1.609	1.601	1.594	1.588	1.585
2.5	1.977	1.965	1.954	1.946	1.939	1.936
3	2.334	2.319	2.306	2.298	2.290	2.286
3.5	2.692	2.674	2.659	2.650	2.641	2.637
4	3.049	3.029	3.012	3.002	2.992	2.987
4.5	3.406	3.384	3.365	3.354	3.343	3.337
5	3.763	3.739	3.718	3.706	3.694	3.687
5.5	4.121	4.094	4.071	4.058	4.045	4.038
6	4.477	4.448	4.424	4.410	4.396	4.388
6.5	4.835	4.804	4.777	4.762	4.747	4.739
7 or greater	5.159	5.159	5.159	5.159	5.159	5.159

Where:

- "Distance" is the distance in kilometres from the relevant POTS of the TRS to the Delivery Point, rounded to the nearest 0.5km. For Delivery Points located within 0.5km of the POTS or TRS, Distance is 0.5km.

3.2.2 Provision of Basic Metering Equipment Charge

The Provision of Basic Metering Equipment Charge applicable to the Local Network Capacity Reservation Service and the Local Network Managed Capacity Service set out in Section 3.1.2 applies.

[25] The charges in this Table are inclusive of GST.
[26] The charges in this Table are inclusive of GST.

3.3 Charge for MDQ: Trunk Capacity Reservation Service, Trunk Managed Capacity Service

The charge for MDQ is the Annual Unit Charge for Capacity multiplied by MDQ or corresponding MDQc if applicable.

The Annual Unit Charge for Capacity (subject to any Short Term Capacity Charge) is the total of:

(a) the charge for the Trunk Zone in which the User's Receipt Point is located **("Trunk Entry Zone**"); and

(b) the charge for the Trunk Zone from which the User's Delivery Point is supplied, ("**Trunk Exit Zone**") if the Trunk Exit Zone is different from the Trunk Entry Zone; and

(c) the charge for each Trunk Zone located between the Trunk Entry Zone and Trunk Exit Zone.

The Wilton Receipt Point is located in:

- Zone A for gas received into the Wilton - Newcastle Network Section; and
- Zone E for gas received into the Wilton -Wollongong Network Section.

The Horsley Park Receipt Point from the Eastern Gas Pipeline is located in Zone A.

The Trunk Exit Zone is determined by reference to the postcode in which the Delivery Point is located and is defined as follows.

TABLE: Trunk Exit Zones / Local Network Receipt Point Postcodes

Trunk Zone	Postcodes and Localities[27]
A	2000, 2006, 2007, 2009, 2010, 2011, 2015, 2017, 2018, 2019, 2020, 2022, 2028, 2031, 2032, 2033, 2035, 2036, 2039, 2040, 2044, 2050, 2064, 2065, 2066, 2067, 2076, 2077, 2080, 2085, 2095, 2099, 2100, 2103, 2111, 2113, 2115, 2116, 2120, 2112, 2128, 2136, 2137, 2138, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2151, 2152, 2154, 2161, 2163, 2164, 2165, 2166, 2170, 2171, 2173, 2190, 2196, 2199, 2200, 2204, 2205, 2208, 2211, 2212, 2214, 2216, 2217, 2220, 2228, 2229, 2231, 2232, 2560, 2565, 2566, 2571, 2747, 2750, 2760, 2761, 2762, 2766, 2777, 2780, Appin
B	2755, 2756, 2765
C	2250, 2256, 2259, 2260, 2261, 2262
D	2285, 2290, 2294, 2298, 2300, 2304, 2305, 2308, 2314, 2320, 2322, 2323, 2324, 2325, 2326, 2330
E	2500, 2505, 2505 – BHP, 2516, 2526

3.3.1 Charge for Trunk Zone

The charge for each Trunk Zone is:

Trunk Charges – $/GJ of MDQ per annum expressed in real 2004/2005 dollars[28]

	Zone A	Zone B	Zone C	Zone D	Zone E
Period Ending 30 June 2005	14.825	33.660	37.542	41.956	88.552
Year Ending 30 June 2006	14.758	33.326	37.187	41.564	89.425
Year Ending 30 June 2007	14.730	33.281	37.162	41.564	90.305
Year Ending 30 June 2008	14.703	33.233	37.138	41.564	91.196
Year Ending 30 June 2009	14.672	33.185	37.111	41.561	92.081
Year Ending 30 June 2010	14.641	33.132	37.078	41.558	92.969

[27] The table contains those postcodes relevant to Non-Tariff Delivery Points existing as at 1 January 2004. Postcodes are based on the postcodes used by AGLGN for pricing purposes in the Access Arrangement dated September 2000. Postcodes applicable to specific Delivery Points should be verified with AGLGN and may vary from postcodes specified by Australia Post.

[28] The charges in this Table are inclusive of GST.

3.3.2 Short Term Capacity Charge

The Short Term Capacity Charge is determined by applying the premium for the period during which the Short Term Capacity is reserved as set out in the Table below to the Charge for MDQ for the additional MDQ reserved as Short Term Capacity:

Period of Additional Capacity	**Premium**
1 Week	20%
2 Weeks	15%
3 Weeks	10%
4 Weeks	0%

3.4 Trunk Throughput Charge

The Trunk Throughput Charge is the total of:

(a) the charge for the Trunk Zone in which the User's Receipt Point is located ("**Trunk Entry Zone**"); and

(b) the charge for the Trunk Zone from which the User's Delivery Point is supplied, ("**Trunk Exit Zone**") if the Exit Zone is different from the Entry Zone; and

(c) the charge for each Trunk Zone located between the Trunk Entry Zone and Trunk Exit Zone.

The Trunk Entry Zones and Trunk Exit Zones are determined in the same way as described in Section 3.3).

Trunk Throughput Charges ($/GJ) in real 2004/2005 dollars[29]

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Zone A	0.2437	0.2426	0.2421	0.2417	0.2412	0.2407
Zone B	0.5533	0.5478	0.5470	0.5463	0.5455	0.5446
Zone C	0.6171	0.6113	0.6109	0.6105	0.6101	0.6095
Zone D	0.6897	0.6832	0.6832	0.6832	0.6832	0.6831
Zone E	1.4556	1.4700	1.4845	1.4991	1.5137	1.5282

[29] The charges in this Table are inclusive of GST.

PART 3B: REFERENCE TARIFFS FOR SERVICES RELATED TO TARIFF DELIVERY POINTS

3.5 General Charges: Local Network Tariff Service

The general charges for the Local Network Tariff Service are:

(a) Throughput Charge (see Section 3.5.1);

(b) Fixed Charge (see Section 3.5.2); and

(c) Provision of Basic Metering Equipment (see Section 3.5.3).

3.5.1 Throughput Charge

The Throughput Charges for the Tariff Service in real 2004/2005 dollars are:

Throughput Charge for Tariff Service ($/GJ) in real 2004/2005 dollars [30]

Block Size (GJ Per Qtr)	Period Ending 30 June 2005 ($ per GJ)	Year Ending 30 June 2006 ($ per GJ)	Period Ending 30 June 2007 ($ per GJ)	Year Ending 30 June 2008 ($ per GJ)	Year Ending 30 June 2009 ($ per GJ)	Year Ending 30 June 2010 ($ per GJ)
First 3.75	9.406	9.386	9.374	9.363	9.353	9.345
Next 4.5	7.119	7.104	7.094	7.086	7.079	7.072
Next 17.25	6.833	6.818	6.809	6.801	6.795	6.788
Next 225	6.678	6.664	6.655	6.647	6.641	6.634
Next 1000.5	5.777	5.764	5.756	5.751	5.744	5.739
All additional	4.342	4.333	4.327	4.322	4.318	4.313

3.5.2 Fixed Charge[31]

The Fixed Charges for the Tariff Service per annum in real 2004/2005 dollars[32] are:

Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
47.174	47.071	47.011	46.958	46.91	46.866

[30] The charges in this Table are inclusive of GST.

[31] In residential complexes where hot water is supplied through a gas fired centralised hot water system, each residential unit will be charged the fixed charge and metering charges applicable to a $6m^3$/hr meter.

[32] The charges in this Table are inclusive of GST.

3.5.3 Provision of Basic Metering Equipment Charge

Provision of Basic Metering Equipment Charge per annum in real 2004/2005 dollars[33]						
Meter Provision Charges	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
For meters with capacity less than or equal to 6m3/hr ($ p.a.)	24.523	24.292	24.102	23.938	23.791	23.659
For meters with a capacity of greater than 6m3/hr ($/GJ)	0.264	0.264	0.264	0.264	0.264	0.264

The Provision of Basic Metering Equipment Charge is payable each billing period. For meters with a capacity greater than 6m3/hr there is a minimum payable each billing period. This minimum in real 2004/2005 dollars is $4.40 per monthly billing period and $13.20 per quarterly billing period.

3.6 Trunk Tariff Service Charge

Charge for Trunk Tariff Service ($/GJ) in real 2004/2005 dollars[34]					
Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
0.2141	0.2138	0.2138	0.2138	0.2138	0.2137

[33] The charges in this Table are inclusive of GST.

[34] The charges in this Table are inclusive of GST

PART 3C: REFERENCE TARIFFS FOR METER DATA SERVICES

3.7 Meter Reading Charge

The Meter Reading Charge is payable each billing period.

Meter Reading Charge for Tariff Delivery Points ($ p.a.) in real 2004/2005 dollars[35]

Meter Reading Cycle	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Quarterly	3.362	3.330	3.303	3.281	3.260	3.243
Monthly	35.538	35.204	34.927	34.690	34.476	34.286

Meter Reading Charge for Non-Tariff Delivery Points ($ p.a.) in real 2004/2005 dollars[36]

Meter Reading Cycle	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Charge per Delivery Station (includes the first 2 meters at a Delivery Station)	597	597	597	597	597	597
Charge for each additional 1 or 2 meters at a Delivery Station	142	142	142	142	142	142

[35] The charges in this Table are inclusive of GST
[36] The charges in this Table are inclusive of GST

3.8 Provision of On-Site Data and Communication Equipment Charge

The Provision of On-Site Data and Communication Equipment Charge is payable each billing period.

Provision of On-Site Data and Communication Equipment Charge ($ p.a.) in real 1999/2000 dollars[37]

Meter Reading Cycle	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Charge per Delivery Station (includes the first 2 meters at a Delivery Station)	1,114	1,114	1,114	1,114	1,114	1,114
Charge for each additional 1 or 2 meters at a Delivery Station	264	264	264	264	264	264

[37] The charges in this Table are inclusive of GST

PART 3D: REFERENCE TARIFFS FOR GAS SWAP SERVICES

3.9 Gas Swap Transaction Charge

The Gas Swap Transaction Charge is the Gas Swap rate multiplied by the quantity nominated during notification of the Gas Swap.

Gas Swap Transaction Charge – $/GJ in real 2004/2005 dollars[38]
$0.0385

PART 3E: VARIATIONS TO REFERENCE TARIFFS

3.10 General

AGLGN may vary the Reference Tariffs in accordance with the variation methods set out in Section 3.11. AGLGN is required to comply with the notification requirements set out in Section 3.12.

3.11 Variation methods

(a) Escalation of Reference Tariffs

Reference Tariffs will be adjusted by the rate of change in the average of the CPI for the four quarters to March in the relevant year divided by the average of the CPI for the four quarters to March in the immediately preceding year

Where:

CPI means the CPI as calculated and published by the Australian Bureau of Statistics from time to time. If the Australian Bureau of Statistics does not, or ceases to, calculate and publish it, then CPI will mean:

(i) an index published by the Commonwealth Treasury which is its best estimate of CPI; or
(ii) if Commonwealth Treasury does not, or ceases to publish an index then an index published by the Reserve Bank of Australia which is its best estimate of CPI ; or
(iii) if the Reserve Bank of Australia does not, or ceases to publish an index, then at the Relevant Regulator's discretion, either:

(A) an index published by a person appointed by the Relevant Regulator which is that person's best estimate of CPI ; or

[38] The charges in this Table are inclusive of GST

(B) an index published by the Relevant Regulator that is its best estimate of the CPI.

(b) Unaccounted for Gas

- In each year (or part thereof) of the Access Arrangement, unaccounted for gas (UAG) will be purchased by AGLGN through a competitive tender conducted by AGLGN at such times as it reasonably determines.

- The forecast UAG level is 2.2 per cent of gas receipts.

- Reference Tariffs will be adjusted each year to account for the variation between the allowance for UAG included in the cost of service for the previous year in the Access Arrangement and the multiple of:

  - the latest forecast of gas receipts for the previous year;

  - the forecast UAG level; and

  - the actual average price per gigajoule paid for gas pursuant to the competitive tender or tenders during that year.

(c) Cost pass-through

AGLGN may vary Reference Tariffs where there is a material impact on the cost of providing Reference Services as a result of one of the cost pass-through events, and where such cost was not incorporated in the determination of Reference Tariffs at the commencement date of the Access Arrangement. Cost pass-through events include:

- a Change in Tax Event;
- a Regulatory Event;
- an Insurance Event; and,
- an Unforeseen External Event.

where:

"Change in Tax Event" means:

(a) a change in the way or rate at which a Relevant Tax is calculated (including a change in the application or official interpretation of Relevant Tax); or

(b) the removal of a Relevant Tax or imposition of a new Relevant Tax;

which, in each case, occurs after the commencement date of the Access Arrangement.

"**Regulatory Event**" means any decision made by the Relevant Regulator or any other authority or any amendment to applicable law after the commencement date of the Access Arrangement which has the effect of:

(a) imposing minimum standards (including network design and operational standards and safety standards) on AGLGN that are different from the standards imposed at the commencement date of the Access Arrangement;

(b) substantially altering the manner in which AGLGN is required to undertake any activity forming part of, or ancillary to, its Reference Services (including through rules for the operation of competitive gas markets); or

(c) changing or introducing any authorisation fee, licence fee or statutory charge.

"**Insurance Event**" means:

(a) insurance becoming unavailable;

(b) insurance becoming unavailable at reasonable commercial rates;

(c) insurance becoming unavailable on terms at least as favourable as those generally available at the commencement date of the Access Arrangement;

(d) the cost of insurance (including, without limitation, premiums or deductibles) becoming materially higher or lower than at the commencement date of the Access Arrangement; or

(e) an insurance benefit payment to AGLGN under its insurance in respect of any risk is reduced by a deductible amount.

"**Unforeseen External Event**" means any external event which is reasonably considered to be beyond AGLGN's control and unforeseen at the commencement date of the Access Arrangement, including but not limited to natural disasters such as bushfires and events caused by terrorism.

3.12 Notification

AGLGN may vary the Reference Tariffs in accordance with the variation methods set out in Section 3.11 if AGLGN provides a notice to the Relevant Regulator containing the information required by the National Code, 30 Business Days prior to the proposed effective date of those variations.

PART 3F: OTHER CHARGES

3.13 Overrun Charges

- Overrun Charges are payable in respect of Overruns under Local Network Capacity Reservation Service Agreements and Trunk Capacity Reservation Service Agreements.

- Overrun Charges are payable only in respect of overruns relating to MDQ in any Day and are not payable in respect of Overruns relating to MHQ.

- For each Day on which an Overrun occurs, the User must pay an Overrun Charge calculated by multiplying the Overrun quantity by 1/365 if authorised, and 1.5/365 if unauthorised, of the Annual Unit Charge for Capacity.

- In addition to the Daily Overrun Charge the User will also be liable to pay an annual Overrun Charge as follows:

  - For Overruns up to the Charge Number in the Period, the annual Overrun Charge will be nil.

  - If the number of Overruns in the Period is greater than the Charge Number, the annual Overrun Charge will be the time-weighted average Annual Unit Charge for Capacity[39] during the Period multiplied by the Relevant Quantity.

  - The Relevant Quantity will be determined as follows:

    (i) if the number of overrun Days during the Period is equal to the Charge Number plus one, the Relevant Quantity will be the daily overrun quantity which is third in the order of all daily overrun quantities for the Period when ranked from largest to smallest[40];
    (ii) if the number of overrun days is equal to the Charge Number plus two, then the Relevant Quantity will be the second in that ranking;
    (iii) if the number of overrun days is equal to the Charge Number plus three, four or five, then the Relevant Quantity will be the largest daily overrun quantity; and
    (iv) if the number of overrun days is equal to or greater than the Charge Number plus six, the Relevant Quantity will be 1.2 times the largest daily overrun quantity.

[39] Time weighting is required to reflect the fact that the Annual Unit Charge for Capacity may change in the course of the Period.

[40] For example, if the Charge Number was 12 and there were 13 overrun Days, with daily overrun quantities of 9, 3, 2, 8, 8, 6, 5, 3, 7, 6, 2, 4 and 5, then the ranking would be 9, 8, 8, 7, 6, 6, 5, 5, 4, 3, 2, 2 and the Relevant Quantity would be 8.

Where:

"**Charge Number**" means:

(i) nine Days plus,
(ii) for each Month or part Month in excess of 12 Months but less than a whole Contract Year in the Period, an additional ¾ of a day, rounded up to the nearest whole number[41].

"**Period**" means a Contract Year plus the number of Months or part Months in the Term in excess of 12 Months but less than a whole Contract Year.

- Any charge payable by a User in respect of an Overrun is payable in addition to, and not in substitution for, any other charge under the Service Agreement.

- Payment of Overrun Charges does not alter MDQ specified in the Service Agreement.

3.14 Gas Balancing Charges

Gas Balancing Charges are best understood in the context of the conditions relating to Gas Balancing, and accordingly are set out in Schedule 3.

3.15 Charges for Ancillary Services

	GST inclusive (2004/2005 dollars)
Request for Service	$60, plus $60 per hour after the first hour
Special meter read	$45
Reconnection fee	$85
Disconnection fee[42]	$115

With effect from 1 July 2005 and each year thereafter, the escalation formula set out in Section clause 3.10, will apply to the Charges for Ancillary Services.

[41] For example, if the Term is 20 Months, the Charge Number is 15, being 9 plus (8 x ¾). If the Term is 21½ Months, the Charge Number is 17, being 9 plus (10 x ¾ rounded up to the nearest whole number).

[42] Disconnection services will be provided in accordance with the current Network Code in place as at the effective date of this Access Arrangement.

PART 3G: GENERAL PROVISIONS ON REFERENCE TARIFFS

3.16 Date of Application of Reference Tariffs

Reference Tariffs apply from the date on which the approval of the Relevant Regulator takes effect under Section 2 of the National Code.

3.17 Reference Tariffs after 30 June 2010

Where the Revisions Commencement Date is later than 30 June 2010:

- the Reference Tariff for the Reference Services for the period between 30 June 2010 and the Revisions Commencement Date will be the Reference Tariff for the Transportation Service as at 30 June 2010; and

- the Reference Service will be supplied on the terms and conditions then applicable for that Reference Service.

3.18 Reference Tariffs after Revisions Commencement Date

Where a Service Agreement extends beyond the Revisions Commencement Date, the tariffs payable under the Service Agreement will be the Reference Tariff then payable for a comparable Service, or as otherwise agreed. In respect of a Throughput Service, should the parties fail to agree then the Reference Tariff payable for the Tariff Service will apply.

PART 3H: GST

3.19 GST

Unless expressly stated otherwise, all amounts payable or the value of other consideration provided in respect of supplies made in relation to this Access Arrangement are exclusive of GST (if any). If GST is levied or imposed on any supply made (or deemed to have been made) under or in accordance with this Access Arrangement, the amounts payable or the value of the consideration provided for that supply (or deemed supply) ("**Payment**") shall be increased by such amount as is necessary to ensure that the amount of the Payment net of GST is the same as it would have been prior to the imposition of GST.

All monetary amounts specified in Section 3 of this Access Arrangement are inclusive of GST. If the applicable rate of GST changes after the date of this Access Arrangement AGLGN must adjust the amounts payable set out in the Section 3 to reflect that change from the date the change is effective.

Where any amount is payable to a party as a reimbursement, indemnification or similar payment calculated by reference to a loss, cost, expense or other amount incurred by that party, then that amount must be reduced by the amount of any input tax credit available to that party and, if a taxable supply, must be increased by an additional amount equal to the GST payable in relation to the supply.

All GST payable shall be payable at the time any payment to which it relates is payable. Where any GST payable is not referable to an actual payment then it must be paid within 10 days of a tax invoice being issued by the party making the supply.

Where in relation to this Access Arrangement a party makes a taxable supply, that party must provide a tax invoice in respect of that supply before the GST payable in respect of that supply becomes due.

Terms defined in A New Tax System (Goods and Services Tax) Act 1999 of Australia have the same meaning when used in this clause.

4. REFERENCE TARIFF POLICY

4.1 Description of Principles

- Reference Tariffs are determined using a "Price Path" Approach with Total Revenue calculated using a Cost of Service Approach methodology. Price paths for the Reference Tariffs will result in a return on capital of 7.85% (pre tax real) over the Access Arrangement Period. A current cost accounting approach to the asset base and depreciation using annual indexation by the CPI and a real pre-tax cost of capital was applied to determine the price path.

- The initial Capital Base was redetermined in the Final Decision 2000 as provided for under Section 9 of the NSW Code and Schedule 2 of the Gas Pipelines Access Law.

- The initial Capital Base (1 July 1996) was allocated to the Wilton- Newcastle Trunk Section, Wilton-Wollongong Trunk Section, the Central West distribution system and the NSW distribution system in accordance with the Final Decision 2000. This applied the DORC valuation determined by the Relevant Regulator under the Final Decision 2000 to the Wilton –Newcastle Trunk Section and to the Wilton-Wollongong Trunk Section. The remainder of the initial Capital Base (after subtracting the values assigned to the Trunk Sections) was allocated to the combined Central West and NSW distribution systems.

- The initial Capital Base as allocated was rolled forward to 1 July 1999 as shown in the Final Decision 2000 and then to June 2003 using actual capital expenditure, depreciation, escalation and disposals. Finally the Capital Base is rolled forward to June 2010 using forecast capital expenditure, depreciation, escalation and disposals.

- Separate asset values and costs are determined for the Trunk Sections to allocate costs and revenues to contract and tariff customers using fully distributed costs.

- The Local Network revenue pools for each market segment and region are determined by allocating revenue to Services equal to the forecast capital and operating cost components for each market segment and region. Capital costs are allocated between non-tariff and tariff segments on the basis of a fully distributed allocation of asset values. Operating costs are allocated on the basis of an activity based costing allocation.

- Prices for the non-tariff segment are then derived by allocation of revenue to zones that reflected the cost of providing a Service to Users in those zones. A single block structure applies to the Tariff segment. Different prices apply in certain country areas.

- Details of the cost allocation and pricing structures are set out in Sections 9 and 10 of the Access Arrangement Information.

- For the purposes of this Access Arrangement the Local Network is to be treated as a single Covered Pipeline.

4.2 Additional Matters

4.2.1 Capital Redundancy Mechanism

With effect from the commencement of the subsequent Access Arrangement Period, the Relevant Regulator may reduce the Capital Base by an amount representing:

(a) any assets that in the reasonable opinion of the Relevant Regulator have ceased to contribute to the delivery of Services;

(b) any assets that have been transferred by AGLGN or in relation to which AGLGN has entered into a binding agreement for its transfer; or

(c) any assets that in the reasonable opinion of the Relevant Regulator have decreased in value because of a decrease in its utilisation resulting from a decline in the volume of sales of this Service.

In assessing the reduction in the Capital Base due to a decreased utilisation of assets resulting from a decline in the volume of sales of a Service, the Relevant Regulator may take into account any reduction in the depreciated optimum replacement cost of the assets, the cost to AGLGN of the reduction in Total Revenue and any possible increase in Tariffs paid by Users resulting from the decline in utilisation of assets.

4.2.2 New Facilities Investment

AGLGN may undertake New Facilities Investment that does not satisfy the requirements of Section 8.16 of the National Code. If AGLGN incurs such New Facilities Investments, the Capital Base may be increased by that part of the New Facilities Investment which does satisfy Section 8.16 of the National Code (referred to in the National Code as the "Recoverable Portion").

4.2.3 Incentive Mechanism

The Incentive Mechanism used in calculating the Reference Tariffs is that:

- Reference Tariffs will apply during each year of the Access Arrangement Period regardless of whether the forecasts on which the Reference Tariffs were determined are realised.
- AGLGN will retain any benefit where it achieves a lower UAG level than the amount assumed for each year of the Access Arrangement Period.

4.2.4 Review of Capital Base after Expiry of an Access Arrangement

The Capital Base at the commencement of the next Access Arrangement period and each Access Arrangement Period after the next will be assessed by the Relevant Regulator using, among other things, the information in relation to those assets in:

(a) the asset register referred to in Section 9.1 of this Access Arrangement; and

(b) the database on capital contributions referred to in Section 9.2 of this Access Arrangement.

5. TRADING POLICY

5.1 Bare Transfer

- A User may make a Bare Transfer to another person (**the transferee**).

- Prior to utilising any transferred Contracted Capacity, the transferee must notify AGLGN of the portion of the Contracted Capacity subject to the Bare Transfer and the nature of the Contracted Capacity subject to the Bare Transfer.

- A Bare Transfer under a Local Network Service will operate as a Bare Transfer of the same portion of the Contract Capacity under the Corresponding Trunk Service.

5.2 Substituted Transfer

- A User may effect a Substituted Transfer with the prior written consent of AGLGN which shall only be withheld on reasonable commercial or technical grounds, and which may be given subject to reasonable commercial and technical conditions.

- A transfer or assignment under a Local Network Reference Service will operate as a transfer or assignment of the same portion of the Contract Capacity under the Corresponding Trunk Reference Service.

5.3 Change of Receipt Point or Delivery Point

- The User may change the Receipt Point under a Trunk Service and/or the Delivery Point under a Local Network Service specified in a Service Agreement with the prior written consent of AGLGN which shall only be withheld on reasonable commercial or technical grounds, and which may be given subject to reasonable commercial and technical conditions.

- Consent will generally be given if:

  the proposed Receipt Point is downstream of the Receipt Point specified in the Trunk Service Agreement;
  the proposed Delivery Point is upstream of the Delivery Point specified in the Local Network Service Agreement.

5.4 Response to Requests

- AGLGN will reply to any request from a User for AGLGN's consent to a Transfer (other than a Bare Transfer), or for a change of Receipt Point or Delivery Point, within 14 Business Days of receiving the request accompanied by information which is reasonably necessary to enable AGLGN to consider the request.

- If at the time the request is made the User informs AGLGN that due to hardship the User requires an urgent reply to its request, AGLGN will use reasonable endeavours to respond to the request within two Business Days of receiving the request.

6. QUEUING POLICY

6.1 Forming the Queue

- Where there is insufficient capacity to satisfy a Request and AGLGN receives a Request from a User, a queue will be formed.

- A queue will include all relevant Requests which cannot be satisfied. Where an offer has been made in response to a Request received prior to formation of the queue, that Request will take first position in the queue.

- At the time a Request is placed in a new or existing queue, AGLGN will advise the Prospective User of:

(a) its position in the queue;

(b) the aggregate capacity sought under Requests which are ahead in the queue;

(c) its estimate of when capacity may become available; and

(d) the size of any surcharge that may apply to Developable Capacity.

- When the position of a Request changes relative to other Requests which are ahead in the queue (such as where a Request ceases to be on the queue) or where the timing of availability of a new tranche of Developable Capacity changes, AGLGN will provide revised information to the Prospective User.

- Where a Request is made for a Service to a Delivery Point and AGLGN is satisfied that the Request is for the same tranche of capacity which is already provided to another User, in respect of that Delivery Point, then AGLGN may make that tranche of capacity available in response to the Request before satisfying any other requests in a queue to the extent that the existing User is otherwise entitled to maintain or extend that tranche of capacity.

6.2 Conditions Applicable on Queue

- A Prospective User may reduce but not increase the capacity sought in a Request which is in a queue.

- Once every three months, AGLGN may seek confirmation from a Prospective User that it wishes to continue with its Request. If a Prospective User fails to respond within 14 days the Request will lapse.

- A Prospective User must advise AGLGN if it does not wish to proceed with a Request, which will then lapse.

- Any lapsed Request must be removed from the queue and priority will be lost.

- A Prospective User may only assign a Request in a queue to a bona fide purchaser of the Prospective User's business and/or assets, subject to AGLGN's prudential requirements.

- A Request may lapse if, on assignment of a controlling interest in the shares of the Prospective User, the assignee fails to provide a guarantee as required by AGLGN or to meet AGLGN's prudential requirements.

6.3 Procedure When Capacity Can Be Made Available

- When capacity can be made available which meets the requirements of any Request in a queue:

  that capacity will be progressively offered to each Prospective User in the queue in order of priority (notwithstanding that such capacity is not sufficient to meet the needs of that Prospective User);
  AGLGN will advise each of those Prospective Users of its plans to make capacity available, and the terms and conditions on which the capacity will be available.

- A Prospective User will have 30 days after an offer is made to enter into a Service Agreement (conditional if necessary on AGLGN entering into Service Agreements with other Prospective Users), failing which the Request will lapse or lose priority to those entering into such a Service Agreement (upon that Agreement becoming unconditional).

- Where the Prospective User has lodged a Linked Request, the 30 day period will begin on the date that an offer is made in respect of both the Trunk and the Local Network.

6.4 Priority of Prospective Users in Obtaining Services

- The priority date of a Request is the date a complete Request is received by AGLGN.

- Where AGLGN determines that two or more Requests relate to the same tranche of capacity for the same Delivery Point, all those Requests will have the priority date of the earliest Request.

- A Request for a Reference Service will have priority over a Request for a Negotiated Service.

6.5 Compensation for Holding Capacity

- AGLGN may require the User to pay compensation for AGLGN agreeing to commence a Service more than 30 days from the execution of a Service Agreement where the commitment of capacity to meet the requirements of the User contributes to:
  - the continuation of a queue,
  - the formation of a queue at any time prior to the commencement date, or
  - the acceleration of investment by AGLGN to provide capacity for other Users on the transportation route.

6.6 General

- A Request will not lapse and will retain its priority in a queue in the event of a dispute being notified, until that dispute has been resolved in accordance with the National Code.

- Where a queue exists a Prospective User must on request demonstrate to AGLGN that the Prospective User will have access to a supply of gas at the time it is anticipated that the Prospective User will be offered access to the Service.

7. EXTENSIONS/EXPANSIONS POLICY

- All extensions and expansions carried out by AGLGN normally will be treated by AGLGN as part of the existing Covered Pipeline and will automatically be included within it. An extension includes any pipes laid in NSW in a distribution system owned and operated by AGLGN at any time during the Access Arrangement (where "distribution system" has the meaning given to it in the Gas Supply Act).

- No extension or expansion will affect Reference Tariffs.

- AGLGN will offer Reference Services in respect of such extension or expansion at the Reference Tariffs and may require a Surcharge in respect of such Reference Services where a Surcharge is allowed under the National Code.

- Where a User seeks a Capacity Reservation Service or a Managed Capacity Service in respect of an extension or expansions where there is no Local Network Unit Charge specified in Section 3 applicable to the Delivery Point, AGLGN will offer the Service at a tariff calculated on a basis consistent with the method adopted in establishing the Reference Tariffs.

8. CAPACITY MANAGEMENT POLICY

The Network is a Contract Carriage Pipeline.

9. ASSET REGISTER, CAPITAL CONTRIBUTION DATA BASE AND UAG AUDIT

9.1 Asset Register

AGLGN will maintain a regulatory asset register during the Access Arrangement Period. The asset register will (without limiting the matters that may be included) include information on:

- economic asset lives and remaining asset lives underlying the initial Capital Base at 1 July 1996;

- asset components (i.e. asset types, unit rates and asset quantities) consistent with the initial Capital Base at 1 July 1996 in the Final Decision 2000. The asset components should be consistent with those used in AGLGN's depreciated optimised replacement cost valuation in its September 2000 Access Arrangement Information;

- the rolled forward Capital Base at 1 July 1999 consistent with the Final Decision 2000;

- new capital expenditure incurred after 1 July 1999 including information on economic asset lives, unit rates and asset quantities; and

- existing and new assets are to be shown by Covered Pipeline and regions (without limitation, Newcastle, Wollongong, Sydney and country areas).

9.2 Capital Contributions Database

AGLGN will maintain during the Access Arrangement Period a database that records the following information in relation to Capital Contributions made to AGLGN:

(a) the amount of a Capital Contribution made by a User in respect of a New Facility;

(b) the amount of any charge paid by a User which exceeds the Charge that would apply under a Reference Tariff for a Reference Service (or in relation to another Service under the Equivalent Tariff) where the excess is paid by the User in relation to the funding of a New Facility;

(c) the date that the Capital Contribution is made under paragraph (a) or the charge is paid under paragraph (b);

(d) the name of the User and the User's contact details; and

(e) a description of the New Facility in relation to which the Capital Contribution is made under paragraph (a) or the charge is paid under paragraph (b).

9.3 UAG

AGLGN will provide to the Relevant Regulator (within 4 months after 30 June in each year of the Access Arrangement period) a statement verified by an independent auditor engaged by AGLGN that contains, without limitation, the following information:

(a) the actual level of UAG on AGLGN's Covered Pipelines;

(b) the UAG charged to Users; and

(c) confirmation that UAG has been purchased by an open competitive tender each year.

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SCHEDULE 1: DEFINITIONS AND INTERPRETATIONS

1.1 In this Access Arrangement:

"**Access Arrangement Information"** means the separate information provided to the Relevant Regulator with the submission for this Access Arrangement.

"**Access Arrangement Period**" has the meaning given in the National Code. This refers to the period from when the Access Arrangement or revisions of the Access Arrangement take effect (by virtue of a decision pursuant to Section 2 of the National Code) until the next Revisions Commencement Date.

"**Additional Capacity"** means the additional capacity available for Local Network Capacity Reservation Service.

"AGLGN" means the owner from time to time of the Network which at the date of this document is AGL Gas Networks Limited ABN 87 003 004 322.

"**Annua1 Quantity"** means the annual consumption quantity for a Customer nominated by a User as adjusted by AGLGN in accordance with Section 3.1.1.2.

"Annual Unit Charge for Capacity" means the price for MDQ expressed in dollars per GJ of MDQ per annum set out in Section 3.

"Alternate Receipt Point" means a Receipt Point that is different to, but on the same Network section as the Principal Receipt Point.

"Authorised Overrun" means an Overrun approved before the Overrun occurs.

"Basic Metering Equipment" means the meter set at the Delivery Station comprising gas meters, filters, regulators, flow correctors, pipe work and isolation valves.

"**Bare Transfer"** means a transfer or assignment of any interest in the right to obtain a Service (including, but without limitation, a sub-licence) in which the contract between AGLGN and the User remains in effect in terms identical to those existing between AGLGN and the User immediately prior to that transfer or assignment.

"Business Day" means any day which is not a Saturday, Sunday or a public holiday in New South Wales.

"Capacity" has the meaning given in the National Code. This refers to the measure of the potential of a Covered Pipeline as currently configured to deliver a particular Service between a Receipt Point and a Delivery Point at a point in time.

"Capacity Reservation Service" means either or both of the transportation services described in Section 2.1.1 and 2.1.2.

"Capital Base" has the meaning given in the National Code. This refers to the value of the capital assets that form the Covered Pipeline.

"Capital Contribution" has the meaning given in Section 8.23 of the National Code.

"Capped Charge for MDQ" means the charge determined in accordance with Section 3.1.1.2.

"Capped Revenue" means the revenue as calculated in accordance with Section 3.1.1.2.

"Charge for Ancillary Services" means a charge determined in accordance with Section 3.15.

"Charge" for a Service means the amount that is payable by a User for that Service under this Access Arrangement.

"Charge for MDQ" means the charge determined in accordance with Section 3.1 for Local Network Capacity Reservation Services and Local Network Managed Capacity Services or Section 3.3 for Trunk Capacity Reservation Services and Trunk Managed Capacity Services, as applicable.

"**Charge Number**" has the meaning given in Section 3.13.

"Contracted Capacity" has the meaning given in the National Code. This refers to that part of the Capacity which has been reserved by a User or Users pursuant to a contract entered into with AGLGN.

"Contract Carriage" has the meaning given in the National Code. This refers to a system of managing third party access whereby:

(d) AGLGN normally manages its ability to provide Services primarily by requiring Users to use no more than the quantity of Service specified in a contract;

(e) Users normally are required to enter into a contract that specifies a quantity of Service;

(f) Charges for use of a Service normally are based at least in part upon the quantity of Service specified in a contract; and

(g) A User normally has the right to trade its right to obtain a Service to another User.

"Contract Month" means the period beginning at 6:30am on the first Day of a calendar month and ending at 6:30am on the first Day of the next succeeding calendar month. Where the commencement date for the provision of a Service to a Delivery Point is not the first Day of a calendar month, the first Contract Month in respect of that Delivery Point shall be the period beginning at 6:30am on the first Day on which the Service is to be provided and ending at 6:30am on the first Day of the next succeeding calendar month and conversely where the last Day for a Service is not the last Day of a calendar month.

"Contract Year" means a period of 12 months commencing on the first Day of the Term (or the anniversary of that Day) for the Delivery Point.

"Corresponding Local Network Service" means a Local Network Service corresponding to the Trunk Reference Service for the Delivery Point under the Local Network Reference Service.

"Corresponding Trunk Service" means a Trunk Service corresponding to the Local Network Reference Service for the Delivery Point under the Local Network Reference Service.

"Cost of Service Approach" has the meaning giving in the National Code.

"Country Unit Charge" means a charge for MDQ expressed in dollars per GJ per annum set out in Section 3.1.1.

"Covered" has the meaning given in the National Code. A Pipeline or part of a Pipeline is covered if that Pipeline or that part of that Pipeline is subject to the provisions of the National Code under Sections 1.1, 1.13, 1.20 or 1.21 of the National Code.

"Covered Pipeline" has the meaning given in the National Code. This refers to, subject to 2.3 and 2.4 of the National Code:

(a) the whole or a particular part of a Pipeline which is Covered; and
(b) any extension to, or expansion of the Capacity of, that Covered Pipeline which is to be treated as part of the Covered Pipeline in accordance with the Extensions/Expansions Policy contained in the Access Arrangement for the pipeline; and
(c) any expansion of that Covered Pipeline required to be installed under Section 6.22 of the National Code.

"CPI" means the All Groups Consumer Price Index that is the weighted average of the 8 capital cities as first published by the Australian Statistician.

"Customer" means the end consumer of Gas. A customer includes any consumer of hot water in a residential unit where hot water is supplied through a centralised gas fired hot water system.

"Day" means a period of 24 consecutive hours beginning at 6.30am Australian Eastern Standard Time and **"Daily"** has a corresponding meaning. When referring to a particular Day, the date of the Day shall be the date on which that Day begins.

"Delivery Point" means a point at which gas is withdrawn from the Network.

"Delivery Station" means the facilities installed at a Delivery Point to enable delivery of gas from the Network including Measuring Equipment and which regulate the delivery and measure the quantity of gas withdrawn at that Delivery Point.

"Developable Capacity" has the meaning given in the National Code. This refers to the difference between the Capacity and the Capacity that would be available if additions of plant and/or pipeline were made, but does not include any extension of the geographic range of a Covered Pipeline.

"Embedded Network" means a distribution system or a pipeline not owned and operated by AGLGN, which receives gas from the Network.

"Embedded Network Operator" means the licensed owner or operator of an Embedded Network.

"Equivalent Tariff" has the meaning given in the National Code. This refers to, in relation to a Service that is not a Reference Service, the Tariff that it is reasonably likely would have been set as the Reference Tariff had the Service been a Reference Service.

"Final Decision 2000" means the Final Decision by the Relevant Regulator on the Access Arrangement dated September 2000.

"Fixed Charge" means a charge determined in accordance with Section 3.5.2.

"Force Majeure" means any event or circumstance not within the control of a party to a Service Agreement and which by the exercise of due diligence, that party is not reasonably able to prevent or overcome.

"Gas Balancing Charge" means any charge, settlement amount or gas purchase amount required under Schedule 3.

"Gas Pipelines Access Law" means the Gas Pipelines Access (NSW) Act 1998.

"Gas Retail Market Business Rules" means the business rules for the retail market in New South Wales as approved by the Minister for Energy, whether under the *Gas Supply Act 1996 (NSW)* or such other business rules for the retail market in New South Wales to which AGLGN is a signatory.

"Gas Supply Act" means the Gas Supply Act 1996 (NSW).

"Gas Swap" means a Receipt Point Swap or a User Swap.

"**Gas Swap Service**" means the Gas Swap Service described in Section 2.7.

"**Gas Swap Transaction Charge**" means a charge determined in accordance with Section 3.9.

"General Terms and Conditions" means those terms and conditions set out in Schedule 2 in respect of Reference Services.

"**GJ**" means gigajoule.

"GST" has the meaning given to it in Division 195 of the A New Tax System (Goods & Services Tax) Act 1999."

"Hour" means any period of 60 consecutive minutes and "**Hourly**" has a corresponding meaning.

"Incentive Mechanism" has the meaning given in Section 8.44 of the National Code.

"Interconnection of Embedded Network Service" means the Service described in Section 2.8.

"Linepack" means the total quantity of gas in a Network Section from time to time.

"Linked Requests" means Requests which are linked under Schedule 6.

"LN Zone" means Local Network zone.

"Local Network" means AGLGN's distribution system in New South Wales, including the Central West distribution system, consisting of a system of pipes and associated facilities including Receipt Station components, Delivery Station components and Measuring Equipment, but excluding the Trunk Sections.

"Local Network Receipt Point" means:

- in the Wilton-Newcastle Network Section – the Trunk Exit Zone applicable to the Delivery Point;
- in the Wilton-Wollongong Network Section – the Trunk Exit Zone or point of connection between the Eastern Gas Pipeline and the Local Network at Port Kembla; and
- in other Network Sections – pressure reduction stations connected to a pipeline owned by a person other than AGLGN.

"Local Network Unit Charge" means a charge for MDQ expressed in dollars per GJ per annum set out in Section 3.

"Managed Capacity Service" means either or both of the transportation services described in Sections 2.2.1 and 2.2.2.

"Maximum Daily Quantity" or **"MDQ"** means the maximum quantity of gas (in GJ's) which AGLGN is obliged to transport and deliver to a particular Delivery Point on behalf of the User on any Day (excluding Overruns).

"Maximum Hourly Quantity" or **"MHQ"** means the maximum quantity of gas (in GJ's) which AGLGN is obliged to transport and deliver to a particular Delivery Point on behalf of the User in any Hour (excluding Overruns).

"Measuring Equipment" means all the equipment and facilities forming part of a Delivery Station or a Receipt Station required to measure and communicate the quantity of gas delivered to or at the Delivery Point or Receipt Point.

"Meter Data Service" means the Meter Data Service described in Section 2.6.

"Meter Reading Charge" means a charge determined in accordance with section 3.7.

"Month" means calendar month.

"Multiple Delivery Point Service" means either or both of the transportation services described in Section 2.4.

"National Code" means the National Third Party Access Code for Natural Gas Pipelines Systems referred to in the Gas Pipelines Access Law.

"Negotiated Service" means a service for the transportation of gas on terms and conditions different to those of a Reference Service.

"Network" means AGLGN's system of pipes and associated facilities including Receipt Station components, Delivery Station components and Measuring Equipment.

"Network Code" means the network code adopted from time to time by AGLGN under its reticulator's authorisation.

"Network Section" means Wilton-Newcastle Network Section, Wilton-Wollongong Network Section, or a country sub-network served by a particular Local Network Receipt Point.

"New Facility" is defined in the National Code. This refers to:

(a) any extension to, or expansion of the Capacity of, a Covered Pipeline which is to be treated as part of the Covered Pipeline in accordance with the Extensions/Expansions Policy contained in this Access Arrangement for that Covered Pipeline; and

(b) any expansion of the Capacity of a Covered Pipeline required to be installed under Section 6.22 of the National Code.

"New Facilities Investment" is defined in the National Gas Code. This refers to the amount of the actual capital cost incurred.

"NSW Code" means the Third Party Access Code for Natural Gas Distribution Networks established by Ministerial Order on 18 April 1997 pursuant to Section 31 of the Gas Supply Act.

"Nominated Delivery Point" means a Delivery Point on the Corresponding Local Network Reference Service nominated under a Trunk Service.

"Non-Tariff Delivery Point" means any Delivery Point where the Customer is reasonably expected to take delivery of a quantity of gas exceeding 10TJ per Contract Year.

"Non-Tariff Services" means the transportation services described in Sections 2.1 to 2.4.

"Overrun" means the withdrawal of a quantity of gas in excess of the MHQ in any Hour or in excess of the MDQ on any Day.

"Overrun Charges" means the charges as described in 3.13.

"Pipeline" means has the meaning given in the Gas Pipelines Access Law.

"**POTS**" means packaged off take station.

"**Previous Maximum Quantity**" means the maximum quantity metered at the Delivery Point on any Day in the twelve months ending 2 months prior to the date on which the Managed Capacity Service commences.

"Pressure Reduction Unit Charge" means a charge expressed in dollars per GJ of MDQ_C per annum set out in Section 3.1.1.2.

"Principal Receipt Point" means, in the context of a Gas Swap Service, the Receipt Point specified in a Service Agreement for a Trunk non-tariff Reference Service.

"Prospective User" has the meaning given in the National Code. This refers to a person who seeks or who is reasonably likely to seek to enter into a contract for a Service and includes a User who seeks or may seek to enter into a contract for an additional Service.

"Provision of Basic Metering Equipment Charge" means a charge determined in accordance with Section 3.1.2 in respect of Services relating to Non-Tariff Delivery Points or Section 3.5.3 in respect of Services relating to Tariff Delivery Points, as applicable.

"Provision of On-Site Data and Communication Equipment Charge" means a charge determined in accordance with Section 3.8.

"**Queuing Policy**" has the meaning given in Section 3.12 of the National Code.

"Receipt Point" means a Trunk Receipt Point or a Local Network Receipt Point.

"Receipt Point Swap" means a transaction under Gas Swap Service in which AGLGN receives gas at an Alternate Receipt Point for transportation through the Network from the Principal Receipt Point. A Receipt Point Swap may include a transfer of title between the Transferor of Gas and the Recipient of Gas at the Principal Receipt Point.

"Receipt Station" means the facilities installed at a Receipt Point to enable receipt of gas from a User into the Network.

"**Recipient of the Gas**" means a User who receives title to gas from another User through a Receipt Point Swap or User Swap.

"Reference Service" means the:

(a) Capacity Reservation Service;

(b) Managed Capacity Service;

(c) Throughput Service;

(d) Multiple Delivery Point Service;

(e) Tariff Service;

(f) Meter Data Service; or

(g) Gas Swap Service.

"Reference Service Agreement" means a Service Agreement in respect of a Reference Service or, where the context requires, any or all of those Services.

"Reference Tariff" means a tariff which relates to a Reference Service**.**

"Relevant Regulator" has the same meaning as in the Gas Pipelines Access Law and at the commencement of this Access Arrangement is the Independent Pricing and Regulatory Tribunal of New South Wales.

"Relevant Quantity" means an amount calculated in accordance with Section 3.13.

"Relevant Tax" means any royalty (whether based on value, profit or otherwise), tax (other than a tax in the nature of an income tax or a capital gains tax) duty, excise, levy, fee, rate or charge imposed from time to time during the term of this Access Arrangement by any government or any governmental, semi-governmental or other body authorised by law to impose that Relevant Tax on or to:

(a) the Network (or any of its components);

(b) the operation of the Network; or

(c) the provision of Services by AGLGN.

"Request" means a Request for Service as described in Schedule 6.

"**Revisions Commencement Date**" has the meaning given in Section 3.17 of the National Code.

"**Revisions Submission Date**" has the meaning given in Section 3.17 of the National Code.

"Service" means a service provided by AGLGN in relation to the Network including but not limited to Reference Services.

"Service Agreement" means a Reference Service Agreement or a Negotiated Service Agreement, or where the context requires, both.

"Short Term Capacity" means the short term capacity referred to in the Local Network Capacity Reservation Service.

"Short Term Capacity Charge" means a charge determined in accordance with Section 3.1.3 in respect of Local Network Capacity Reservation Services, or Section 3.3.2 in respect of Trunk Capacity Reservation Services, as applicable.

"Specifications" means the specifications for gas in Schedule 5.

"Substituted Transfer" means a transfer or assignment of any interest in the User's right to obtain a Service (including, but without limitation, an assignment) in which the contract between AGLGN and the User either does not remain in effect or remains in effect with terms not identical to those existing between AGLGN and the User immediately prior to that transfer or assignment.

"Summer Tranche Capacity" means the summer tranche capacity referred to in the Local Network Capacity Reservation Service.

"TRS" means trunk receiving station.

"Tariff", for a Service, is defined in the National Code. This refers to the criteria that, when applied to a User's characteristics and requirements, determine the charge that is payable by that User to AGLGN.

"Tariff Customer" means a person who is reasonably expected to take delivery of less than 10TJ of gas per year.

"Tariff Delivery Point" means a Delivery Point at which the Customer is a Tariff Customer.

"Tariff Service" means the either or both of the transportation services described in Sections 2.5.1 and 2.5.2.

"Tariff User" means a User taking a Tariff Service.

"Term" means, unless otherwise agreed, the period specified in the Services Agreement for a Delivery Point.

"Throughput Charge" means a charge determined in accordance with Section 3.2.1 in respect of Local Network Throughput Services, Section 3.4 in respect of Trunk Throughput Services or Section 3.5.1 in respect of Local Network Tariff Services, as applicable.

"Throughput Service" means either or both of the transportation services described in Sections 2.3.1 and 2.3.2.

"TJ" means terajoule.

"Total Revenue" has the meaning given in Section 8.2 of the National Code.

"**Transferor of the Gas**" means a User that transfers its title to gas to another User through a Receipt Point Swap or User Swap.

"Trunk" means all of the Trunk Sections.

"Trunk Capacity Reservation Service" means the Capacity Reservation Service for the Trunk described in Section 2.1.2.

"**Trunk Entry Zone**" means any point where a User's Receipt Point is located.

"Trunk Exit Zone" means any point at which gas is delivered from the Trunk to the Local Network. (In respect of the Wilton-Newcastle and Wilton-Wollongong Network Sections, the areas served by each Trunk Exit Zone are shown in the Table in Section 3.3 and/or in Schedule 7).

"Trunk Managed Capacity Service" means the Managed Capacity Service for the Trunk described in Section 2.1.2.

"Trunk Receipt Point" means any point at which gas is received into the Trunk.

"**Trunk Tariff Service"** means the Tariff Service for the Trunk described in Section 2.5.2.

"Trunk Tariff Service Charge" means a charge determined in accordance with Section 3.6.

"**Trunk Throughput Service"** means the Throughput Service for the Trunk described in Section 2.3.2.

"Trunk Section" means pipelines being the Wilton-Wollongong Trunk Section and the Wilton-Newcastle Trunk Section.

"**Trunk Zone**" means the zones identified in the diagram set out in Schedule 7.

"Unaccounted for Gas" or "**UAG**" means gas necessary to make up for gas lost or unaccounted for in the Network.

"Unauthorised Overrun" means an Overrun which is not approved by AGLGN before it occurs.

"User" means a 'System User' as that term is defined in the Gas Supply Act (or any other definition which supersedes that term which defines the eligibility of a person to obtain third party access to the Network).

"User Swap" means a transaction under a Gas Swap Service in which title to gas is transferred from the Transferor of Gas to the Recipient of Gas after the gas has been delivered to the Network at the Principal Receipt Point of the Recipient of the Gas.

"**Wilton-Newcastle Network Section**" means the Wilton-Newcastle Trunk Section and those parts of the Local Network supplied from the Wilton-Newcastle Trunk Section.

"**Wilton-Newcastle Trunk Section**" means the transmission pipeline being that part of the Network being the pipe system which extends from Wilton to the TRS at Kooragang Island in Newcastle and supplying TRS's at Appin, Campbelltown, Eastern Creek, West Hoxton, Horsley Park, Plumpton, Windsor, Gosford, Warnervale, Wyong, and Hexham, and POTS at Appin, Morisset, Maroota, Minmi and Wyee and such other TRSs and POTS as may be installed from time to time.

"**Wilton-Wollongong Network Section**" means the Wilton Wollongong Trunk Section and that part of the Local Network supplied from the Wilton-Wollongong Trunk Section.

"**Wilton-Wollongong Trunk Section**" means transmission pipeline being that part of the Network being the pipe system which extends from Wilton to the TRS at Mount Keira and then to Cordeaux Heights in Wollongong;

"Year" means a period of 365 consecutive Days but, for any Year which contains a date of 29 February, means 366 consecutive Days.

Interpretation

1.2 In the construction of the Access Arrangement, unless the context otherwise requires:

(a) a reference to a clause or a schedule is to a clause in, or schedule to, the Access Arrangement;

(b) the singular includes the plural and vice versa;

(c) references to any statute, regulations, or other statutory instrument, standard or by-laws shall be deemed to be references to the statute, regulation, statutory instrument, standard or by-law as from time to time amended, consolidated, re-enacted or replaced including substituted provisions that substantially correspond to those referred to;

(d) references to any agreement, deed, instrument, or publication shall be deemed to be references to the agreement, deed, instrument or publication as from time to time amended, supplemented, novated or replaced;

(e) clause or condition headings are inserted for convenience only and do not affect the interpretation of the Access Arrangement;

(f) expressions referring to writing will be construed as including references to words printed, type-written, telexed, lithographed, facsimiled or otherwise traced, copied or reproduced;

(g) references to 'dollars' and '$' are references to Australian dollars;

(h) a reference to a Party includes a reference to its successors in title and permitted assigns;

(i) an agreement, representation or warranty on the part of two or more persons binds them jointly and severally or if given in favour of two or more persons may be enjoyed by them jointly or severally or jointly and severally;

(j) when referring to a particular Day, the date of the Day shall be the date on which that Day begins; and

(k) the words “include”, “including”, “for example” or “such as” are not used as, nor are they to be interpreted as, words of limitation, and, when introducing an example, do not limit the meaning of the words to which the example relates to that example or examples of a similar kind.

SCHEDULE 2A TERMS AND CONDITIONS APPLICABLE TO ALL REFERENCE SERVICES

General

1. The General Terms and Conditions in this Schedule 2A apply to all Reference Services. The General Terms and Conditions in Schedule 2B apply to all Reference Services except Tariff Reference Services.

2. Additional terms and conditions for each Reference Service are set out in Section 2:

(a) Capacity Reservation Service	–	Section 2.1
(b) Managed Capacity Service	–	Section 2.2
(c) Throughput Service	–	Section 2.3
(d) Multiple Delivery Point Service	–	Section 2.4
(e) Tariff Service	–	Section 2.5
(f) Meter Date Service	–	Section 2.6
(g) Gas Swap Service	–	Section 2.7

3. The gas balancing arrangements set out in Schedule 3 apply to all Reference Services.

4. The operational principles set out in Schedule 4 apply to all Reference Services.

Reference Services Agreement

5. A User is required to enter into a Reference Services Agreement with AGLGN for a Service, before being given access to the Reference Service.

6. AGLGN and a User must perform their obligations under a Reference Service Agreement, and conduct their relations with each other, in a commercially reasonable manner, and in accordance with reasonable operating and management practices.

7. AGLGN may amend the terms and conditions set out in a Reference Service Agreement to reflect changes to:

   (a) the Gas Market Business Rules, to the extent the changes are consistent with this Access Arrangement; or

   (b) other applicable laws.

Right to access

8. AGLGN will not discriminate between Prospective Users in the provision of Services on the basis of:

   (a) past transactions or relationships with AGLGN;

   (b) the identity of the Prospective User, except that AGLGN may require different amounts of security under Schedule 2A clause 10, taking into account, amongst other things, the User's credit record and past transactions and relationships with AGLGN or other parties;

   (c) the fact that the Prospective User is a related party of AGLGN; or

   (d) the source of the gas proposed to be transported, subject only to the gas meeting the Specifications, and the User having suitable arrangements in place to monitor and control the quality of the gas.

Obligation to Transport

9. AGLGN's obligation to transport gas will consist of:

   (a) the receipt of gas at the Trunk Receipt Point or Local Network Receipt Point (whichever is relevant); and

   (b) the delivery of a thermally equivalent quantity of gas at the Local Network Receipt Point or the Delivery Point (whichever is relevant) up to a maximum of the MHQ in any Hour, subject to the aggregate deliveries from all Users on a Day being equal to the aggregate withdrawals by all Users on that Day.

Security for payment

10. A User must, on request by AGLGN:

   (a) provide security for the performance of its obligations under a Service Agreement. Such security may be of such type and such extent as AGLGN reasonably determines;

   (b) pay all amounts owing under a Service Agreement to continue to receive Services under that Service Agreement; and

   (c) demonstrate its ability to meet all financial obligations under a Service Agreement.

Gas Pressure

11. The User must deliver gas at the Receipt Point within the pressure range set out in Schedule 8: Receipt Point Pressures, or as nominated from time to time by AGLGN.

Responsibility for Gas and Unaccounted for Gas

12. AGLGN is responsible for gas while the gas is in its control. AGLGN will replace gas lost while in its control, and will purchase such gas through a competitive tender each year.

Overruns

13. An Overrun will occur if withdrawals at a Delivery Point (and Nominated Delivery Point) exceed the MDQ in any Day or MHQ in any Hour.

14. An Overrun approved before the event by AGLGN is an Authorised Overrun.

15. A User may request an Authorised Overrun on giving one Business Day's notice to AGLGN.

16. The User and AGLGN must agree the overrun quantity for MDQ and MHQ (such agreed Quantity is the "Authorised Overrun Quantity" in respect of each) and the Day or Days and/or Hour or Hours, on which the Authorised Overrun Quantity will be transported and/or delivered.

17. If the withdrawals at a Delivery Point (and Nominated Delivery Point):

    (a) on a Day exceed the sum of the MDQ for the Delivery Point or Local Network Receipt Point and any authorised Overrun Quantity for MDQ for the Day; or

    (b) in any Hour exceed the MHQ and any Authorised Overrun Quantity for MHQ for the Hour

    then an Unauthorised Overrun will have occurred and the excess will be an Unauthorised Overrun Quantity.

18. Users under a Throughput Service, Managed Capacity Service or Tariff Service are not liable to pay charges under Section 3 in respect of Overruns.

19. Users will be liable for and indemnify AGLGN against any loss, liability or expense suffered or incurred by AGLGN as a result of any Unauthorised Overrun.

20. Where a Delivery Point is served under two or more Service Agreements, and an Overrun occurs:

    (a) an Overrun will have occurred under each Service Agreement; and

    (b) the Overrun quantity will be apportioned between the Service Agreements proportionately according to MDQ.

Metering

21. Withdrawals at Delivery Points will be metered by Basic Metering Equipment provided by AGLGN.

22. The User will use reasonable endeavours to provide AGLGN with clear and safe access to each Delivery Point and Measuring Equipment. AGLGN may enter a Delivery Point to obtain access to Measuring Equipment.

23. If the User does not provide AGLGN with access to a Delivery Point or Measuring Equipment, AGLGN may estimate the quantity of gas withdrawn, cease providing the Service after 6 hours written notice, and/or relocate the Measuring Equipment at the User's expense.

24. If Measuring Equipment fails to operate, the quantity of gas withdrawn will be determined by agreement, or failing agreement by successively using a check meter, calculating the percentage error through calibration tests or mathematical calculation and varying the quantity by one half of the error, or by a deeming method.

25. The quantity of gas delivered at the Delivery Point will be a product of the volume and the average heating value or values declared by AGLGN for the Network Section which includes the Delivery Point or as otherwise agreed.

26. If :

    (a) AGLGN ceases to offer Meter Data Services, or any elements thereof, as a Reference Service, and AGLGN does not offer to provide, or the User does not take, a meter data service; or

    (b) either party terminates the Meter Data Services, on the enactment of provisions under the Gas Retail Market Business Rules that permits the provision of meter reading or on site data and communication by a person other than AGL,

    the User is required to provide details of the meters and meter readings to AGLGN in a format and timetable acceptable to AGLGN.

Allocation

27. Where gas is delivered to a Delivery Point for more than one User or under more than one Service, the User or Users must establish allocation methodologies and notification processes reasonably acceptable to AGLGN. If no such methodologies or processes are established, AGLGN will be entitled to adopt a reasonable methodology such as pro-rating based on MDQ to determine the allocation of the gas between Users or between Services.

New Receipt Points and Receipt Stations

28. The User must ensure that there is a Receipt Station at any Receipt Point established after 1 January 2005, immediately upstream of any connection to the Network.

29. AGLGN's requirements include that the design must conform with the technical requirements for such facilities as published from time to time by AGLGN, which requirements will be in accordance with good industry practice for this type of facility and conform to appropriate Australian and internationally recognised standards and codes (including AS2885). The Receipt Station will comprise a filtration and liquid separation system, gas quantity measurement facilities, a flow and pressure control system and, if AGLGN reasonably requires, gas quality measurement facilities.

30. AGLGN will require Receipt Station specifications comprising design, operation and maintenance principles to be submitted to AGLGN for written approval prior to installation. A minimum of four (4) weeks must be allowed for the AGLGN approval process from the time of submission.

31. AGLGN may, upon reasonable notice to a User, operate the pressure and flow control facilities at any Receipt Station which is not owned by AGLGN. A User must have contractual arrangements in place with the owner of the Receipt Station to allow AGLGN to exercise this right.

32. AGLGN may require Users of a new Receipt Point to pay the costs incurred by AGLGN in modifying any part of its Network, and/or installing any systems required to enable the new Receipt Point to be established and integrated into the operation of the Network which AGLGN has not recovered from the party who established the Receipt Point.

Alterations to Receipt Point and Receipt Stations

33. AGLGN may require Users to make alterations to, or install additional equipment at, a Receipt Station for the purpose of achieving upgraded measurement performance, or accommodating changes in Gas demand characteristics.

34. AGLGN may require Users to pay for the costs incurred by AGLGN in altering, or adding equipment to any part of the Network for the purposes of measuring or improving the measuring of gas quality at a Receipt Point.

Delivery Points and Delivery Stations

35. It is the intention that each Delivery Point will contain only one Delivery Station. AGLGN may in its discretion agree to a request from a User for an additional Delivery Station.

36. Delivery Stations will generally be owned by AGLGN except for some facilities which are not integral to the transportation of gas.

37. If a particular Customer's site was connected to the Network as at the date of the 1997 Access Undertaking, and was being served at that time through more than one Delivery Station, then the Delivery Point may consist of any or all of those Delivery Stations.

Accounts and Payments

38. AGLGN will render invoices at regular intervals but not less frequently than monthly.

39. AGLGN may charge interest on amounts which are not paid within 14 days of the date of the account.

Force Majeure

40. Where an event of Force Majeure affects or prevents a party's performance under a Service Agreement, the non-performance will not be a breach of the Service Agreement but the party affected by the Force Majeure must use reasonable endeavours to put itself in a position to perform its obligations.

41. An event of Force Majeure will not relieve a party from its obligations under a Service Agreement after the expiry of a reasonable period of time within which the Force Majeure could have been remedied or overcome had reasonable endeavours been exercised by the party affected.

42. An event of Force Majeure will not relieve a party from any obligations under a Service Agreement unless, promptly after becoming aware of the Force Majeure the party affected gives written notice to the other party.

43. If an event of Force Majeure continues to prevent a party from performing its obligations under the Service Agreement for a year the parties shall consult in good faith to resolve the Force Majeure. If they are unable to agree, either party may terminate the Service Agreement. Both parties will be relieved of any future obligations but not relieved of obligations arising prior to termination.

44. Where there is a charge based on MDQ, and AGLGN is unable to perform its obligations under a Service Agreement due to an event of Force Majeure occurring within the Network, the charge will be based on the actual amount withdrawn during that period (up to MDQ) rather than MDQ.

45. Clauses 40 to 44 do not apply to:

    (a) a party's failure to pay money; or

    (b) a User failing to ensure that gas delivered to a Receipt Point meets the Specifications.

Suspension of supply

46. The User may request AGLGN to stop or suspend the delivery of gas to a Delivery Point under a Service and AGLGN must, at the later of:

    (a) the earliest reasonably practical date after receipt of written notice from the User; and

(b) the date requested by the User,

stop or suspend the delivery of gas to a Delivery Point nominated in the notice. The suspension will not relieve the User from its obligations to pay for the Service.

47. If requested by AGLGN, a representative of the User must be present when AGLGN stops or suspends the delivery of gas to the Delivery Point.

48. AGLGN may suspend the delivery of gas to a Delivery Point if:

(a) the User does not or is unable to deliver sufficient gas to the Receipt Point to meet the User's withdrawal requirements (taking any gas balancing adjustments into account);

(b) the User has not ceased taking gas at a Delivery Point or the delivery of gas to a Receipt Point if notified to do so;

(c) the User is not a member of a scheme for the operation of the natural gas retail market in New South Wales approved by the Minister for Energy (approved scheme); or

(d) AGLGN is requested by the manager of an approved scheme to suspend the delivery of Gas to the Delivery Point.

49. AGLGN is entitled to charge the User for stopping or suspending the delivery of gas at the User's request.

50. If AGLGN, suspends the Services in accordance with this Access Arrangement, AGLGN will not liable to the User or to the User's Customer's for any losses, liabilities and expenses incurred by the User arising out of or in connection to that suspension. The User will be liable for and indemnify AGLGN against any claims made by any third party (including against the User) arising out of AGLGN's actions to suspend supply of gas.

Interruptions of Supply

51. AGLGN may, without being in breach of the Services Agreement, interrupt or reduce the delivery of gas to a Delivery Point for the purpose of undertaking repairs, tests, upgrades or maintenance of the Network, upon giving the User reasonable notice prior to the scheduled interruption or reduction of delivery of gas.

52. AGLGN may, without being in breach of the Services Agreement, interrupt or reduce the delivery of gas to a Delivery Point, without prior notice to the User, in cases of emergency or risk of injury to persons or damage to property for such period as AGLGN believes is necessary.

Liabilities and Indemnities

53. Unless otherwise provided in this Access Arrangement, the following clauses 54 to 60 shall regulate all liability of AGLGN and the User arising in relation to any act, omission or event arising out of this Access Arrangement.

54. All express or implied warranties, representations or covenants which are not contained in this Access Arrangement are excluded to the maximum extent permitted by law. If a condition or warranty is implied into this Access Arrangement under the Trade Practices Act 1974 (Commonwealth) or any equivalent State or Territory legislation that cannot be excluded, then AGLGN's liability to the User for breach of the condition or warranty is limited to (at AGLGN's option):

    (a) the re-supply of the relevant service under this Access Arrangement; or

    (b) the payment of having the relevant service re-supplied.

55. A party (the "**First Party**") shall not be liable to the other party (the "**Second Party**") whether in contract, tort, statute or otherwise for or in respect of any consequential loss arising out of this Access Arrangement, including:

    (a) loss of revenue;

    (b) economic loss;

    (c) loss of profits;

    (d) loss of business opportunity or business interruption;

    (e) claims of third parties;

    (f) loss of reputation;

    (g) punitive or exemplary damages; or

    (h) costs or expenses associated with or incidental to any of the above.

56. The liability of the First Party to the Second Party is limited to loss or damage suffered by the Second Party arising from:

    (a) personal injury to the Second Party's employees, agents or contractors arising from the First Party's acts or omissions under this Access Arrangement;

    (b) damage to the Second Party's property arising from the First Party's acts or omissions under this Access Arrangement; or

    (c) any breach of this Access Arrangement by the First Party which causes that loss or damage.

57. The User shall include in all its supply arrangements with persons who are provided with gas arising out of this Access Arrangement, a provision that limits or excludes the User's liability to those persons, to the extent reasonably practicable, and in particular in relation to transportation of gas.

58. The First Party will indemnify and keep indemnified the Second Party, its employees and agents against any loss which the Second Party suffers or incurs as a result of or in connection with any claim by a third party arising out of or in connection with:

    (a) any personal injury to the Second Party's employees, agents or contractors arising from the First Party's acts or omissions under this Access Arrangement;

    (b) any damage to the Second Party's property arising from the First Party's acts or omissions under this Access Arrangement; or

    (c) any breach of this Access Arrangement by the First Party which causes that loss or damage.

59. The limitations on claims, damages and liability referred to in clauses 55 and 56, do not apply in respect of loss resulting from or associated with:

    (a) delivery of non-Specification gas into the Network by or on behalf of a User;

    (b) delivery of non-Specification gas to a Delivery Point by AGLGN, unless the delivery of non-Specification gas to a Delivery Point is due to a User or their agent delivering non-Specification gas into the Network;

    (c) failure by the User to cease delivery or taking of gas as required under the Service Agreement;

    (d) withdrawal at a Delivery Point or a Local Network Receipt Point of a quantity greater than MHQ in any Hour or a quantity greater than MDQ on any Day except as an Authorised Overrun; or

    (e) any action or omission of a User or their agent regarding the installation, operation, maintenance or removal of Measuring Equipment.

60. The liability of AGLGN and the User to one another under clauses 53 to 59 inclusive is reduced to the extent to which the liability is caused or contributed to by either AGLGN or the User.

Emergency Contact Information

61. The User must ensure that at all times AGLGN has accurate emergency contact information for the User and for the Customer at each Delivery Point.

Title to Gas

62. The User will warrant that it has title to gas delivered into the Network by it or on its behalf. From time to time, AGLGN may request the User provides satisfactory evidence that the User has title to gas at any Receipt Point and that the quantities of gas which the User is entitled to have delivered to the Receipt Point are consistent with the quantities of gas that the User is required to have delivered to the Receipt Point under gas balancing arrangements applying to that Receipt Point.

63. AGLGN is entitled to co-mingle the gas in the Network.

Gas Quality

64. The User must deliver gas at the Receipt Point which meets the Specification and, subject to the User complying with this requirement, AGLGN will ensure that gas delivered at the User's Delivery Points meets the Specification.

65. AGLGN may direct the User to cease the delivery of gas which does not meet the Specification, or may refuse to accept such gas and give notice to the User accordingly.

66. From time to time, AGLGN may require the User to demonstrate that it has contractual arrangements in place to prevent gas which does not meet the Specification being delivered into the Network. From time to time, AGLGN may require the User to provide facilities to enable AGLGN to monitor the quality of gas at any point where gas is introduced into the system of pipes through which it is delivered into the Network.

67. Where gas quality is measured upstream of the Network the User must comply with gas testing provisions prescribed by any law applying during this Access Arrangement (including, but not limited to, provisions applying to AGLGN). Such a law may include, without limitation, any regulation made under the Gas Supply Act. For any period during this Access Arrangement where there is no such law in place, the User must satisfy or caused to be satisfied, the gas testing provisions as determined by AGLGN from time to time.

68. The User acknowledges that gas delivered by or on behalf of the User to a Receipt Point will enter into the Network in close proximity to and will be available for use by a large number of persons, and that its failure to ensure that gas delivered at any Receipt Point meets the Specification may result in those persons suffering damage.

Breach of Agreement

69. Breach of a Local Network Reference Service Agreement or Trunk Reference Service Agreement will be deemed to be a breach of the corresponding Trunk Reference Service Agreement or corresponding Local Network Reference Service Agreement as the case may be.

Commencement and Termination Of Agreement

70. Termination of a Local Network Reference Service Agreement or Trunk Reference Service Agreement will terminate the corresponding Trunk Reference Service Agreement or corresponding Local Network Reference Service Agreement as the case may be.

71. The Commencement Date for the Trunk Reference Service Agreement will be the Commencement Date of the corresponding Local Network Reference Service Agreement.

SCHEDULE 2B: ADDITIONAL TERMS AND CONDITIONS APPLICABLE TO REFERENCE SERVICES EXCEPT TARIFF REFERENCE SERVICE

MDQ and MHQ

1. At the commencement of a Service Agreement, the User will specify an MDQ for each Delivery Point (subject to any right the User has to Summer Tranche Capacity or Short Term Capacity under Section 2) that is to apply for the whole of the Term for that Delivery Point.

2. Except as an Authorised Overrun, AGLGN will not be obliged to deliver at any of the User's Delivery Points or Local Network Receipt Points a quantity of gas greater than the MDQ for that Delivery Point, or MHQ in any Hour.

Extension of Term

3. A User is entitled to continue to receive the Services to the Delivery Point and Local Network Receipt Point after the expiry of the Term if:

   (a) the Term of the Service expires on or before the Revisions Commencement Date; and

   (b) the User gives AGLGN at least four weeks notice prior to the expiry of the Term requesting an extension of the Term.

4. If the Term of the Services expires after the Revisions Commencement Date, the User is not entitled to continue to receive the Services to the Delivery Point and Local Network Receipt Point after the expiry of the Term, unless the User enters into a Services Agreement with AGLGN effective from the date the Term of the Services expires under the preceding Services Agreement.

5. If the requirements of clause 3 are satisfied, the User shall be entitled to continue to receive the Services for a further term at a capacity not exceeding the MDQ and MHQ applying under the Service Agreement at the expiry of the Term (excluding any Short Term Capacity or Summer Tranche Capacity) at the Reference Tariffs payable under the Access Arrangement in force from time to time during such further term. In respect of a Managed Capacity Service, if the maximum quantity metered at the Delivery Point in the 12 months ending 2 months prior to the expiry of the Term is greater than the MDQ, then the User shall be entitled to receive a Capacity Reservation Service, but may request a Managed Capacity Service in accordance with Schedule 6.

6. Where the MHQ at a Delivery Point is more than one tenth of the booked MDQ, and AGLGN gives the User at least 12 weeks notice prior to expiry of the Term that a queue has been formed, or is likely to be formed during the following Term, the User is not entitled to continue to receive the Services to the Delivery Point. AGLGN may agree to

continue to provide the Services after the expiry of the Term, to the Delivery Point on reasonable commercial and/or technical grounds, including, the installation of demand management devices by the User which are acceptable to AGLGN.

7. Unless the User has notified AGLGN , at least four weeks prior to the expiry of the Term that:

   (a) AGLGN is to cease delivering gas to a Delivery Point to that Delivery Point from the expiry of the Term; or

   (b) the User wishes to exercise its rights under clause 3 above,

   AGLGN will be entitled but not obliged to continue to deliver gas to that Delivery Point on the basis that:

   (a) the Term for that Delivery Point will be deemed to have been automatically extended by 12 months from the date which would otherwise have been the expiry date; and

   (b) the type of service and MDQ for that Delivery Point will continue unchanged.

SCHEDULE 3: GAS BALANCING

General

Section A of this Schedule 3 sets out gas balancing with an Operational Balancing Agreement (OBA) in place and Section B of this Schedule 3 sets out gas balancing with no Operational Balancing Agreement in place.

Notwithstanding the provisions set out in these sections, if an alternative arrangement is provided for by the Gas Market Company or under an equivalent scheme which AGLGN is a participant in, and AGLGN approves the alternative arrangements, then Section A and Section B of this Schedule 3 will cease to operate. AGLGN's approval will be subject to the alternative arrangement meeting the operational requirements of the Network and being reflected in the Services Agreement for each User.

Definitions

In this Schedule 3:

"Adjusted Requirement" has the meaning given to it in clause 7 of Section A of Schedule 3.

"Change in Target Linepack" means the User's Target Linepack at the end of the Day minus the User's Target Linepack at the end of the previous Day.

"Confirmed Nomination" has the meaning given to it in clause 8 of Section A of Schedule 3 or clause 8 of Section B of Schedule 3, as applicable.

"Forecast Requirement" has the meaning given to it in clause 4 of Section A of Schedule 3 or clause 4 of Section B of Schedule 3, as applicable.

"Gas Market Company" means the Gas Market Company Limited ACN 095 400 250.

"**Input**" has the meaning given to it in clause 13 of Section B of Schedule 3.

"Nomination" means the quantities of gas (in GJ) required to be delivered at a Delivery Point or a Receipt Point to or for the account of the User for each Day of a specified period.

"Nomination Day" has the meaning given to it in clause 4 of Section A of Schedule or clause 4 of Section B of Schedule 3, as applicable.

"Operational Balancing Agreement" or **"OBA"** means an agreement between pipeline/network owners to cooperate in the management of the pipeline/network interfaces.

"**Operational Balancing Cost**" has the meaning given to it in clause 15 of Section B of Schedule 3.

"**Outstanding Amount**" means the amount determined in accordance with clause 16 of Section B of Schedule 3.

"**Participant Balancing Amount**" means the quantity of gas which the User nominates to rectify part or all of the participant imbalance for the Network Section caused by differences between the total of Inputs and any quantity purchased from AGLGN under clause 17 of Section A Schedule 3, and Withdrawals on any Day.

"**Prior Imbalance Account**" means the cumulative difference between the total of the User's Confirmed Nominations for a Receipt Point and the Withdrawal Quantity for the User for the Receipt Point for all Days prior to the Nomination Day for which metering information is available from daily metered Delivery Points, minus the User's share of Line Pack for that Receipt Point.

"Proposed Nomination" has the meaning given to it in clause 7 of Section B of Schedule 3.

"**Reconciliation Amount**" means the quantity of gas which the User nominates to rectify part or all of the imbalance caused by the reconciliation of withdrawals between the quantity determined by data estimation and the quantity withdrawn as measured by meter on any Day.

"Settlement Amount" means the amount incurred by AGLGN in purchasing by tender a quantity of gas from a Shipper for the purpose of clearing, in whole or in part, that User's Prior Imbalance Account. Where settlement is required under clause 15(a) of Section A of Schedule 3, the quantity of gas required to effect such settlement will be allocated between all relevant Users with a negative Prior Imbalance Account on a pro rata basis.

"Shipper" means a person contracted to supply gas to the Receipt Point on behalf of the User or on behalf of the person from which the User purchases gas at that Receipt Point.

"Target Linepack" means target quantity of gas in a Network as determined by AGLGN for each User at the end of a Day, in accordance with the following:

> Linepack for the Trunk Section at the end of the Day will be allocated to each User in proportion to its MDQ (or where there is no MDQ defined in the Service Agreement, an amount determined by AGLGN after consultation with that User). In all other Network Sections the target linepack for a single designated User will be deemed to be equal to the Linepack in the Section, and the target linepack for each other User will be deemed to be zero.

"User's Fiduciary Guarantee" means a bank guarantee or other appropriate instrument such as a parent company guarantee (as agreed with AGLGN) as a financial warranty for the underwriting of Settlement Amounts or Outstanding Amounts as appropriate.

"**Wilton Network Section**" means the Wilton-Newcastle Network Section and the Wilton-Wollongong Network Section.

Section A: Gas Balancing with Operational Balancing Agreement

A. Introduction

1. An OBA is an agreement between pipeline/network owners to cooperate in the management of the pipeline/network interfaces and is structured to minimise the impact of local physical variations on pipeline and network transportation arrangements.

2. Under an OBA, the nominations of Users of the Network and Shippers in the pipelines are deemed to flow into the Network for the purposes of Network imbalance calculation and pipeline delivery invoicing and balancing. User imbalances will exist in the Network. These imbalances will reflect the difference between each Users cumulative confirmed nomination and cumulative actual withdrawals from the Network. User imbalances are corrected through nominations or through the nomination process or through settlement between individual participants and the Network.

3. The operational imbalances between the Network and Pipelines and User imbalances will normally be reduced by the action of Users. Users are required to correct their individual imbalances through the nomination process.

B. Daily Forecasts and Nominations

4. Each Day, and for each Receipt Point at which the User receives gas, the User will inform AGLGN of its gas requirements ("**Forecast Requirement"**) for the next Day ("**Nomination Day"**). The Forecast Requirement for a Receipt Point is to include the following components:

   (a) gas nomination in total and for each Shipper at that Receipt Point, calculated in accordance with clause 5;

   (b) forecast requirement for non-daily metered Tariff Customers (which will not include any Reconciliation Amount);

   (c) Reconciliation Amount determined in accordance with the Network Code or the Gas Retail Market Business Rules (whichever is applicable), provided that AGLGN is not required to accept the Reconciliation Amount as part of the Forecast Requirement unless the total of all Reconciliation Amounts for all Users on a Day in a Network Section equals zero; and

   (d) when required in advance by AGLGN, the forecast withdrawal at designated Delivery Points, and at times agreed between the User and AGLGN.

5. Nominations of the components of Forecast Requirements will be made in good faith so that the total quantity nominated under 4(a) for all Receipt Points serving the Network Section is the aggregate amount which the User intends to withdraw from the Network Section on the Nomination Day under all transportation agreements, adjusted for any quantity made available to or by other Users under a Gas Swap Service, and the total and Shipper quantities nominated under 4(a) are consistent with the quantities of gas which the User is entitled to have delivered to the Receipt Point.

6. Where the User has a Local Network Service and a Corresponding Trunk Service, the User may make a single nomination in respect of those Services for that Receipt Point.

7. AGLGN will advise the User of the quantity of gas (**"Adjusted Requirement"**) which the User should deliver to each Receipt Point on the Nomination Day in order to enable AGLGN to:

   (a) satisfy the User's Forecast Requirement;

   (b) reduce the User's Prior Imbalance Account until it is zero; and

   (c) satisfy any other aggregate needs for the relevant Network Section (including adjustment for the User's change in share of linepack and any other adjustments due to revised metering information) to ensure safe and reliable supply.

8. Where the User has more than one Shipper at the Receipt Point, the User will apportion the User's Adjusted Requirement between its Shippers ("**Confirmed Nomination"**) and advise AGLGN.

9. Where the User has only a single Shipper at the Receipt Point, the User's Adjusted Requirement is the User's Confirmed Nomination.

10. AGLGN will advise each relevant Shipper of the User's Confirmed Nomination and each relevant Shipper and Pipeline operator of the aggregate nomination for the Shipper and Pipeline operator for that Receipt Point.

11. Should the User fail to provide AGLGN with a valid Forecast Requirement or User's Confirmed Nomination, AGLGN shall determine the User's Confirmed Nomination based on the User's Forecast Requirement (adjusted for any Reconciliation Amount) for the same day in the prior week (or where such day is a public holiday, based on the same day in the week two weeks prior).

12. Each of the obligations set out in Sections 4 to 11 must be completed in accordance with a timetable:

    (a) determined through consultation between AGLGN, the operators of the pipelines, and any established gas industry governance body; and

    (b) published from time to time in the Gas Retail Market Business Rules.

C. Prior Imbalance Account

13. AGLGN shall determine the User's Prior Imbalance Account for each Receipt Point.

14. Each User shall provide AGLGN with a User's Fiduciary Guarantee to an amount reasonably determined by AGLGN having regard to the maximum amount which the User's Prior Imbalance Account may reach.

15. AGLGN may require settlement by the User of the User's Prior Imbalance Account in part or whole, when:

    (a) the Operational Balancing Agreement requires settlement or is terminated; or

    (b) a Services Agreement between the User and AGLGN is terminated.

16. AGLGN will issue a notice requiring payment of the Settlement Amount specified in the notice within 7 days of the date of the notice. Should the User fail to comply with the notice within that time, AGLGN may use the User's Fiduciary Guarantee to pay the Settlement Amount under that notice.

D. Participant Balancing

17. In relation to participant balancing, AGLGN and the User will comply with:

    (a) the provisions of the Network Code; or

    (b) where they replace the relevant provisions in the Network Code, the provisions contained in Gas Retail Market Business Rules.

E. Cessation of the Operational Balancing Agreement

18. The Operational Balancing Agreement and the opportunities it provides for the market rely on the participation of AGLGN and infrastructure owners directly upstream remaining parties to the Agreement.

19. In the circumstances where the Operational Balancing Agreement ceases to be effective in the opinion of AGLGN, the following will occur as transitional arrangements:

    (a) AGLGN will issue notices to all Users requiring payment of Settlement Amounts for all outstanding User Imbalance Accounts; and

    (b) The provisions in Section B "Gas Balancing with no Operational Balancing Agreement" will apply.

Definitions for Section A

20. In this Section A of Schedule 3, *Withdrawal Quantities* means the total of:

    (a) ***Non-Tariff Withdrawals,*** being the total quantity of gas withdrawn by the User of a Non-Tariff Service, adjusted for the total of any quantity provided to or by other Users under a Gas Swap Service on the Day, at all Non-Tariff Delivery Points, as determined by measurement or as otherwise agreed under the Service Agreement; and

    (b) ***Tariff Withdrawals,*** determined as the Total Tariff Withdrawals for the User of a Tariff Service, allocated between ***the*** Receipt Points used by the User in supplying Tariff Delivery Points either:

(i) in proportion to the User's forecast requirement for non-daily metered Tariff Customers under clause A 4(b) for each Receipt Point, or

(ii) using a proportioning method agreed with the User,

where ***Total Tariff Withdrawals*** are:

(i) the quantity of gas withdrawn at non daily metered Tariff Delivery Points, calculated, and allocated to the User, in accordance with the Network Code or the Gas Retail Market Business Rules (whichever is applicable) provided the applicable Code allocates the total quantity of gas withdrawn by all users at non daily metered Tariff Delivery Points on the Day, and where it does not do so, the quantity withdrawn will be the quantity calculated and allocated by AGLGN for each Network Section in proportion to quantities nominated by all Users of that Network Section under clause A 4(b); plus

(ii) the total quantity of gas withdrawn on the Day at all of the User's daily metered Tariff Delivery Points.

SECTION B: Gas Balancing with no Operational Balancing Agreement

A. General Qualifications

In small network sections located upstream of Wilton, each User will be deemed to be in balance within the Network Section (ie. inputs will be deemed to be equal to withdrawals for each user.)

1. Whenever there is no Operation Balancing Agreement in effect, the following provisions will apply. These are structured on the understanding that:

   (a) each Network Section will only have one pressure controlled Receipt Point, all other Receipt Point will be flow controlled;

   (b) the operator of a pipeline for flow controlled Receipt Points will aim to input a quantity of gas each Day at each Receipt Point equal to the Confirmed Nominations of Users served by it through that Receipt Point;

   (c) the Receipt Point at Wilton from the Moomba Sydney Pipeline will be pressure controlled; and

   (d) UAG is supplied by AGLGN.

2. If any of these circumstances change then the method for determining Input quantities and the arrangements for gas balancing will be reviewed and varied to the extent necessary to take account of the changed circumstances, subject to the approval of the Relevant Regulator.

B. Daily Forecasts and Nominations

3. Each Day, and for each Receipt Point, the User will provide AGLGN with its forecast of Withdrawal Quantities from the Network for each of the next three Days.

4. Each Day, and for each Receipt Point at which the User receives gas, the User will inform AGLGN of its gas requirements ("**Forecast Requirement"**) for the next Day **("Nomination Day"**) for each relevant Network Section. The Forecast Requirement for a Receipt Point is to include the following components:

   (a) gas nomination in total for that Receipt Point calculated in accordance with clause 5;

   (b) forecast non-daily metered Tariff Requirements (which will not include any Reconciliation Amount);

   (c) Reconciliation Amount determined in accordance with the Network Code or the Gas Retail Market Business Rules (whichever is applicable), provided that AGLGN is not required to accept the Reconciliation Amount as part of the Forecast Requirement unless the total of all Reconciliation Amounts for all Users on a Day in a Network Section equals zero;

(d) Participant Balancing Amount determined in accordance with the Network Code or the Gas Retail Market Business Rules (whichever is applicable), provided that AGLGN is not required to accept the Participant Balancing Amount as part of the Forecast Requirement unless the total of all Participant Balancing Amounts for all Users of a Day in a Network Section equals zero; and

(e) when required in advance by AGLGN, the forecast withdrawal at designated Delivery Points, and at times agreed between the User and AGLGN.

In respect of a User at a Delivery Point at which an automatic feedback control system is used to establish a direct relationship between input at an Eastern Gas Pipeline Receipt Point and the quantity actually withdrawn at the Delivery Point, the User must provide a Forecast Requirement for all Delivery Points other than that Delivery Point.

5. Nominations of the components of Forecast Requirements will be made in good faith so that the total quantity nominated under 4(a) for all Receipt Points serving the Network Section is the aggregate amount which the User intends to withdraw from the Network Section on the Nomination Day under all Service Agreements, adjusted to account for any quantity made available to or by other Users under a Gas Swap Service.

6. Where the User has a Local Network Service and a Corresponding Trunk Service, the User may make a single nomination in respect of those Services for that Receipt Point.

7. AGLGN will advise the User of the quantity of gas which the User should plan to deliver or have delivered into the Network at each Receipt Point on the Nomination Day in order to enable AGLGN to satisfy the User's withdrawal requirements and any other aggregate needs for the relevant Network Section (including adjustment for the User's change in share of Linepack) to ensure safe and reliable supply ("**Proposed Nomination"**) .

8. The User will advise AGLGN of the Quantity of Gas which the User intends to deliver or have delivered into the Network at each Receipt Point on the Nomination Day (the User's "**Confirmed Nomination"**).

9. Should the User fail to provide AGLGN with a valid Confirmed Nomination, AGLGN shall determine the User's Proposed Nomination as the Confirmed Nomination.

10. Each of the obligations set out in Sections 3 to 9 must be completed in accordance with a timetable

- determined through consultation between AGLGN and any gas industry governance body which may be established; and

- published from time to time in the Gas Retail Market Business Rules (or prior to the adoption of such Code, in the Network Code or by AGLGN).

C. Input and Withdrawal Quantities

General

11. Gas balancing is carried out between the Receipt Point at which gas intended for a Delivery Point first enters the Network, and that Delivery Point. Accordingly, where the User has corresponding Trunk and Local Network Services, inputs are determined at the Receipt Point specified under the Trunk Service and withdrawals are determined at the Delivery Point in the Local Network.

Withdrawal Quantities

12. In this Section B of Schedule 3, *Withdrawal Quantities* means the total of:

(a) ***Non-Tariff Withdrawals,*** being the total quantity of gas withdrawn by the User of a Non-Tariff Service, adjusted for the total of any quantity provided to or by other Users under a Gas Swap Service on the Day, at all Non-Tariff Delivery Points, as determined by measurement or as otherwise agreed under the Service Agreement; and

(b) ***Tariff Withdrawals,*** determined as the Total Tariff Withdrawals for the User of a Tariff Service, allocated between the Receipt Points used by the User in supplying Tariff Delivery Points either:

(i) in proportion to the User's Forecast Requirement for non-daily metered Tariff Customers under clause B4(b) for each Receipt Point; or

(ii) using a proportioning method agreed with the User, where:

Total Tariff Withdrawals are:

(i) the quantity of gas withdrawn at non daily metered Tariff Delivery Points, calculated, and allocated to the User, in accordance with the Network Code or the Gas Retail Market Business Rules (whichever is applicable), provided the applicable Code allocates the total quantity of gas withdrawn by all users at non daily metered Tariff Delivery Points on the Day, and where it does not do so, the quantity withdrawn will be the quantity calculated and allocated by AGLGN for each Network Section in proportion to quantities nominated by all Users of that Network Section under clause B 4(b); plus

(ii) the total quantity of gas withdrawn on the Day at all of the User's daily metered Tariff Delivery Points.

Input Quantities

13. In this Section B of Schedule 3, the User's Input will be one of the following amounts:

(a) Where there ***is*** only one User at the Receipt Point the User's Input will be the metered quantity at the Receipt Point net of UAG purchased by AGLGN.

(b) Where two or more Users receive gas at the same flow controlled Receipt Point,

(i) Subject to (ii), the metered quantity at the Receipt Point net of UAG purchased by AGLGN will be allocated to the Users in proportion to their Confirmed Nominations for the Day.

(ii) In respect of a User at a Delivery Point at which an automatic feedback flow control system is used to establish a direct relationship between input at a flow controlled Receipt Point and the quantity actually withdrawn at the Delivery Point, the quantity allocated will be the difference between the metered quantity at the Receipt Point net of UAG purchased by AGLGN, and the total of the Confirmed Nominations for all other Users plus the User's Confirmed Nomination for its other Delivery Points.

(a) Where two or more Users receive gas at the Wilton Receipt Point and:

(i) where the quantity metered at the Wilton Receipt Point on a Day net of UAG purchased by AGLGN exceeds or is equal to the aggregate of Confirmed Nominations for Users of that Receipt Point for the Day, then each such User will be deemed to have received its Confirmed Nomination for the Day.

(ii) where the quantity metered at the Wilton Receipt Point on a Day net of UAG purchased by AGLGN, is less than the aggregate of Confirmed Nominations for Users of that Receipt Point for the Day, then the total quantity metered at that Receipt Point on the Day net of UAG purchased by AGLGN will be allocated among those Users in proportion to their Confirmed Nominations for the Day.

(d) Where there is more than one User at the Receipt Point on any other Network Section, the Input for each User will be deemed to be the User's withdrawal plus Change in Target Linepack.

D. Gas Balancing

14. The User is required to act in good faith to ensure that the quantity of gas delivered to each Network Section for or on behalf of the User on each Day is equal to the quantity withdrawn from the Network Section by the User on the Day, adjusted for any Change in the User's Target Linepack for the Network Section (and subject to any amounts which the User may input under the participant balancing arrangements referred to in Section E other than for the purpose of delivery to the Delivery Point on that Day) and adjusted for any quantity made available to or by other Users under a Gas Swap Service. If a User has more than one Service Agreement pertaining to a particular Network Section and Receipt Point, gas balancing arrangements will apply to the aggregates of quantities input at the Receipt Point and withdrawn under those agreements.

15. Where clause 13(c)(i) under Input quantities applies in relation to a Day for the Wilton Receipt Point, AGLGN will purchase[43] a quantity of operational balancing gas equal to

[43] AGLGN will seek tenders for the supply of operational balancing gas on an annual or bi-annual basis.

the difference between the total quantity metered at the Wilton Receipt Point on the Day net of UAG purchased by AGLGN and the aggregate of Confirmed Nominations for Users of that Receipt Point for the Day. The cost of purchasing the operational balancing gas is the Operational Balancing Cost.

16. The quantity of gas purchased by AGLGN will be sold by it to those Users of the Wilton Network Section whose withdrawals on the Day exceed their Inputs adjusted for any Participant Balance Amount for the Day, in proportion to the amounts of those differences for that Receipt Point, at the Operational Balancing Cost. Such Users are obliged to purchase the quantities so nominated by AGLGN.

17. Each User shall provide AGLGN with a User's Fiduciary Guarantee to an amount reasonably determined by AGLGN having regard to the maximum amount which the Outstanding Amount may reach. Should the User fail to purchase the quantities of gas as nominated by AGLGN under clause 16 within 7 days, AGLGN may use the User's Fiduciary Guarantee to pay the Outstanding Amount.

E. Participant Balancing

18. In relation to participant balancing, AGLGN and the User will comply with:

(a) the provisions of the Network Code; or

(b) where they replace the relevant provisions in the Network Code, the provisions contained in Gas Retail Market Business Rules.

SCHEDULE 4: OPERATIONAL PRINCIPLES

LOAD SHEDDING

This policy will apply to all Local Network and Trunk Services, irrespective of the Receipt Point or User's upstream arrangements.

Policy

In the event of gas supply reduction, or a prospective gas supply reduction, in a part of the Network, AGLGN will initiate a load shedding procedure to preserve the integrity of the Network and minimise the disruption to operations at Users' sites.

Load Shedding

Load shedding is defined as a controlled interruption to, or reduction in, the delivery of gas to Customers.

Ranking and Priorities

Load shedding, will be implemented by AGLGN according to the following schedule of priorities:

Load Shedding Priority	Load Type
1	Interruptible Loads.
2	A Delivery Point which serves more than one Customer, and where no arrangement exists between AGLGN and the operator of the facilities beyond the Delivery Point for shedding loads served by those facilities.
3	Sites where gas is not used for production.
4	Sites where load is transferable to an alternative fuel.
5	Load that may be reduced without damage to product or plant.
6	Load that may be halted without damage to product or plant.
7	Load where halting will cause product damage.
8	Load where halting will cause plant damage.
9	Load not transferable to alternative fuel at hospital and essential service sites.
10	Tariff sites (Residential, Commercial and Industrial).

Priority will be determined by the usage specified in the Schedule to the Service Agreement, or if no usage is specified, by AGLGN. Users must inform AGLGN of any changes in priority due to changes in customer usage. Users shall respond to requests from AGLGN for

information on priorities and customer emergency contacts within a reasonable period of time.

Restoration of Service

Where feasible, supply will be restored in reverse order to that in which load shedding was implemented.

Emergency contacts for Customers

Users must ensure that they advise AGLGN of emergency contacts for Customers at Non-Tariff Delivery Points and ensure that such contact details are current at all times.

Users must advise of emergency Contact details for communication between AGLGN and the User during load shedding. User emergency contact personnel must be available to assist AGLGN during load shedding if required.

Emergency Load Management Systems (ELMS)

Site and Network information is maintained through ELMS, in consultation with Users, and is used as the basis for the load shedding.

ELMS is the process of contacting Customer sites to notify them of an interruption to their gas supply as a result of a problem with the delivery of gas, and reconnecting them when delivery capability has been restored. All Users of the Network will be required to participate in and comply with the scheme.

ELMS is an AGLGN computer based system used as an aid in contacting and recontacting Customer sites in the event of a supply failure. Information on the ELMS system relating to a User is available to the User on request.

Suspension

If a User fails to comply with the load shedding procedures set out in this Schedule 4, AGLGN may suspend the delivery of Gas to a Delivery Point.

Liability

AGLGN will not be liable for any losses, liabilities or expenses incurred by the User and/or the Users' Customers arising from load shedding. The User will be liable for and indemnify AGLGN against any claims made by the User's customers (including against the User) arising out of AGLGN's implement action of load shedding procedures.

ESTABLISHMENT OF RECEIPT POINTS

General

Any person (whether a User or not) seeking to interconnect with the Network for the purpose of enabling a User or Users to deliver gas to the network for onward transportation may establish a new Receipt Point. Where a User or a third party wishes to establish a new Receipt Point, they must enter into an agreement with AGLGN including the following matters.

Receipt Point and Equipment Upstream

The pipe or system of pipes upstream of the Receipt Point, and the new Receipt Point shall comply with the following requirements in order to ensure that the integrity, safety and operating ability of the Network is not compromised:

(a) The location of a new Receipt Point will be agreed to by the third party and AGLGN. AGLGN will only withhold its agreement to a location sought by the third party on the basis of technical, operational or safety considerations.

(b) Each Receipt Point must have an associated Receipt Station as described in Schedule 2A.

(c) To safeguard against the hazards of over `pressurisation of the Network the Receipt Station must be equipped with overpressure protection facilities in accordance with AGLGN's usual standards and requirements, including AS2885, at the third party's expense.

(d) A remotely controlled isolation valve operable by AGLGN will be installed at the outlet of the Receipt Station upstream of the new Receipt Point, at the third party 's expense.

(e) The Receipt Point will be at the flange immediately upstream of the facilities described above, or as otherwise agreed by AGLGN. All facilities upstream of the new Receipt Point will be the responsibility of the third party.

(f) The operational mode of a Receipt Station for a new Receipt Point must be compatible with the operational mode of the Network.

The hot tap connection to connect the facilities to the Network will be designed and constructed with AGLGN's usual standards and requirements, including AS2885, at the third party 's expense.

Modifications may be required to the Network and/or AGLGN systems to integrate the new Receipt Point into the operation of the Network. Requirements will vary depending on the location of the new Receipt Point. The party seeking to establish the Receipt Point will bear the reasonable costs of such modifications, whether identified before or after installation of the Receipt Point unless AGLGN can recover them from Users of the Receipt Point.

Cathodic Protection of Facilities

The third party must design, install, and operate, any cathodic protection system necessary to protect its facilities at its own cost. Cathodic protection facilities must be installed in such a

manner as to avoid any interference which may be detrimental to AGLGN's facilities and must be electrically isolated from AGLGN's facilities.

Installation and Operation

In the interests of safety and ensuring the integrity of AGLGN's pre-existing facilities, the third party must cooperate with AGLGN to establish, in a timely manner, appropriate arrangements and procedures for the safe installation and operation of the third party's facilities, and for the management of emergency situations involving those facilities and the Network.

SCHEDULE 5: GAS QUALITY SPECIFICATION

The User must ensure that gas delivered by it or on its behalf at each Receipt Point complies with:

(a) the specifications prescribed by any New South Wales law, including but not limited to any regulation made under the *Gas Supply Act 1996 (NSW)*, applying during the Agreement that extends to any such gas;

(b) where the law referred to in paragraph (a) does not prescribe a particular matter, or for any period during the Service Agreement in which there is no such law, the specification set out below; and

(c) any other specifications notified by AGLGN to a User from time to time.

The specifications prescribed by any New South Wales law prevail over the specifications referred to in (b) and (c) of Schedule 5, to the extent of any inconsistency.

Where Gas quality is measured upstream of the Network, permissible variations outside of the specifications will be determined by AGLGN from time to time, subject to the specifications prescribed by any New South Wales law.

	Parameter[44]	**Specification Limit**	
1	Wobbe Index	Min.	46.0 MJ/m^3
		Max	52.0 MJ/m^3
2	Oxygen	Max.	0.2 mol%
3	Hydrogen Sulphide	Max.	5.7 mg/m^3
4	Total Sulphur[45]	Max.	50 mg/m^3
5	Water Content	Max. Dew Point 0°C at maximum transmission pressure upstream of receipt point, but in any case no more than 112.0 mg/m^3	
6	Hydrocarbon Dewpoint	Max.	2° at 3,500 kPaG
7	Total Inert Gases	Max.	7.0 mol %
8	Solid Matter and Liquids	Nil Permitted	
9	Temperature at Receipt Point	-5°C to 50°C	
10	Odorant	Odorant to be of a type approved by AGLGN. Level of odorant to be 12 milligrams per cubic metre or such other level as the AGLGN may require.	

[44] The standard testing conditions for all gas properties are

Temperature	15°C
Absolute Pressure	101.325 kPa

with the natural gas dry (that is, completely free of water vapour)

[45] Including odorant, or an allowance for odorant in cases where odorant is injected downstream of test points.

SCHEDULE 6 REQUEST FOR SERVICE

Access and Requests for Services

Reference Services and Negotiated Services

In order to obtain access to a Negotiated Service or a Reference Service a User or Prospective User will observe the following procedures.

A Prospective User must lodge a Request and meet AGLGN's prudential requirements. Where the MHQ is expected to exceed $6m^{3}$/Hour a Request must include as a minimum the level of detail envisaged by this Schedule 6. Where the MHQ is expected to be less than $6m^{3}$/Hour the Request must include such details as requested by AGLGN from time to time.

- A Prospective User must lodge a separate Request for access to the Local Network and the Trunk, and may nominate those Requests to be Linked Requests.

- Where a User has a Capacity Reservation Service for both Local Network and Trunk, a Request for Summer Tranche Capacity or Short Term Capacity must be lodged for both the Local Network and the Trunk and the Requests will be treated as Linked Requests. Where a Request relates to capacity under a Local Network Reference Service which is required to have a corresponding Trunk Service (and vice versa), a request must be lodged in respect of each Service and the Requests will be treated as Linked Requests.

- A Prospective User may have only one active Request in relation to the Trunk and the Local Network for the same tranche of capacity for a particular Delivery Point.

- AGLGN will advise the Prospective User where a Request is incomplete, and if so what is required to complete the Request. If the Prospective User corrects the deficiency within 7 days, the priority of the Request will depend on the date on which AGLGN first received the Request. Otherwise, the priority will depend on the date on which AGLGN receives the complete Request.

- AGLGN will within the shortest reasonable time and in any event within 30 Days of receiving a complete Request advise whether capacity is available and at what price, and whether a queue exists for the capacity[46].

- A Request will lapse unless,
  - where a Request is a Linked Request, within 30 Days of AGLGN advising that capacity is available for both Requests, or

  - in all other cases, within 30 days of AGLGN advising that capacity is available for the Request

[46] Where the Request relates to Short Term Capacity or Summer Tranche Capacity under a Capacity Reservation Service, AGLGN will respond within the times specified in section 2.1.1

the Prospective User has either entered into a Reference Service Agreement or commenced bona fide negotiations[47].

- Where there is sufficient capacity to meet a Request, there will be no queue.
- Where there is insufficient capacity to satisfy a Request, then a queue will be formed and the Queuing Policy will apply.

[47] A Request for Service will not lapse in the event of a dispute being notified under the National Code until that dispute has been resolved in accordance with the National Code.

SCHEDULE 6B: REQUEST FOR SERVICE FORM

A single Request for Service Form is required for Local Network Reference Services and Corresponding Trunk Reference Services.

Sections 1, 2, 3, 4, and 5 must be completed for all Requests.
Sections 6 and 7 must be completed for additional capacity at an existing site.
Sections 6, 7, 8, and 9 must be completed for new delivery points.

1. PROSPECTIVE USER INFORMATION

Name of Prospective User:

A.B.N

Contact Officer .....

Position Title .....

Telephone .....

Fax .....

.....

Customer Contact Details:

Name

Position Title .....

Telephone .....

Fax .....

.....

2. RECEIPT POINT INFORMATION

Receipt Point Location

Entity supplying inlet gas .....

.....

3. DELIVERY POINT INFORMATION

Delivery Point Business Name ----------

A.B.N. ----------

Delivery Point Street Address ----------

Postcode ----------

Delivery Point is ……. Metres (N, S, E or W) from (nearest cross Street) ----------

Delivery Point is located on the (N, S, E or W) side of the Street. ----------

4. TRANSPORTATION INFORMATION

Service Requested	Managed Capacity/ Capacity Reservation/Throughput/Negotiated/ Tariff
	Short Term Capacity/Summer Tranche

If Short Term Capacity or Summer Tranche Capacity is requested there must be a pre-existing capacity reservation service in place,

Service Commencement Date .....

Duration of Service Agreement Sought .....

ANZIC code(s) .....

Gas Applications .....

AQ (GJ/yr) Annual Quantity .....

MDQ (GJ/day) Maximum Daily Quantity .....

MHQ (GJ/hr) Maximum Hourly Quantity .....

5. DELIVERY STATION PRESSURE

Delivery Station Pressure (kPa) —
Metering pressure (1.38, 2.75, 7.0, 35, 100, if other please specify)

6. APPLIANCE & GAS LOAD INFORMATION

Appliance Type	Hourly Rate (MJ/hr)	Operating Capacity (%)	Hour/ Day	Days/ week	Weeks/ year	Total Annual Quantity (TJ/yr)
Total						

Do any of these appliances have pilots or small flow rates? If so, which ones?

…….

7. FUEL CONVERSION INFORMATION

(if applicable)
Current Fuel Type

…….

Current Annual Consumption (GJ/yr)

…….

8. DELIVERY STATION INFORMATION

If the customer requires other than a standard single run meter set, please specify:

…….

Is the proposed meter set located indoors? Y / N
Is a security compound required? Y / N

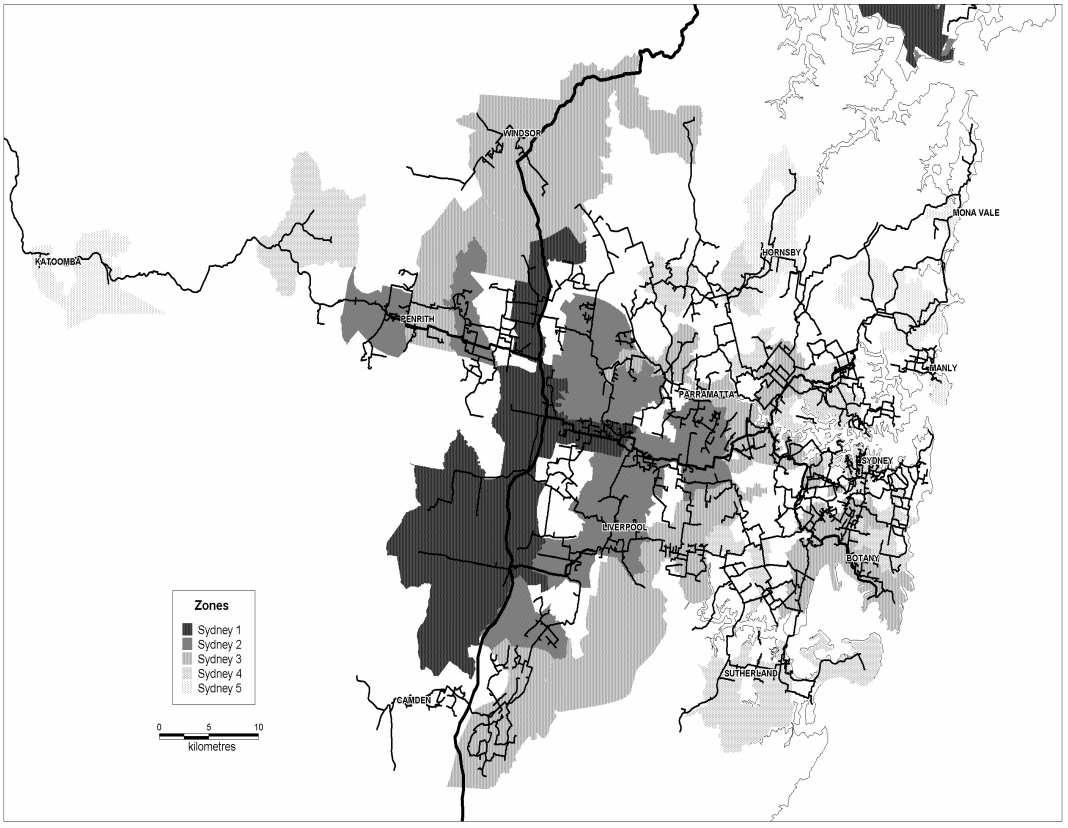
9. DELIVERY STATION LOCATION SKETCH

Please provide a sketch showing the proposed location of the meter set and the following:

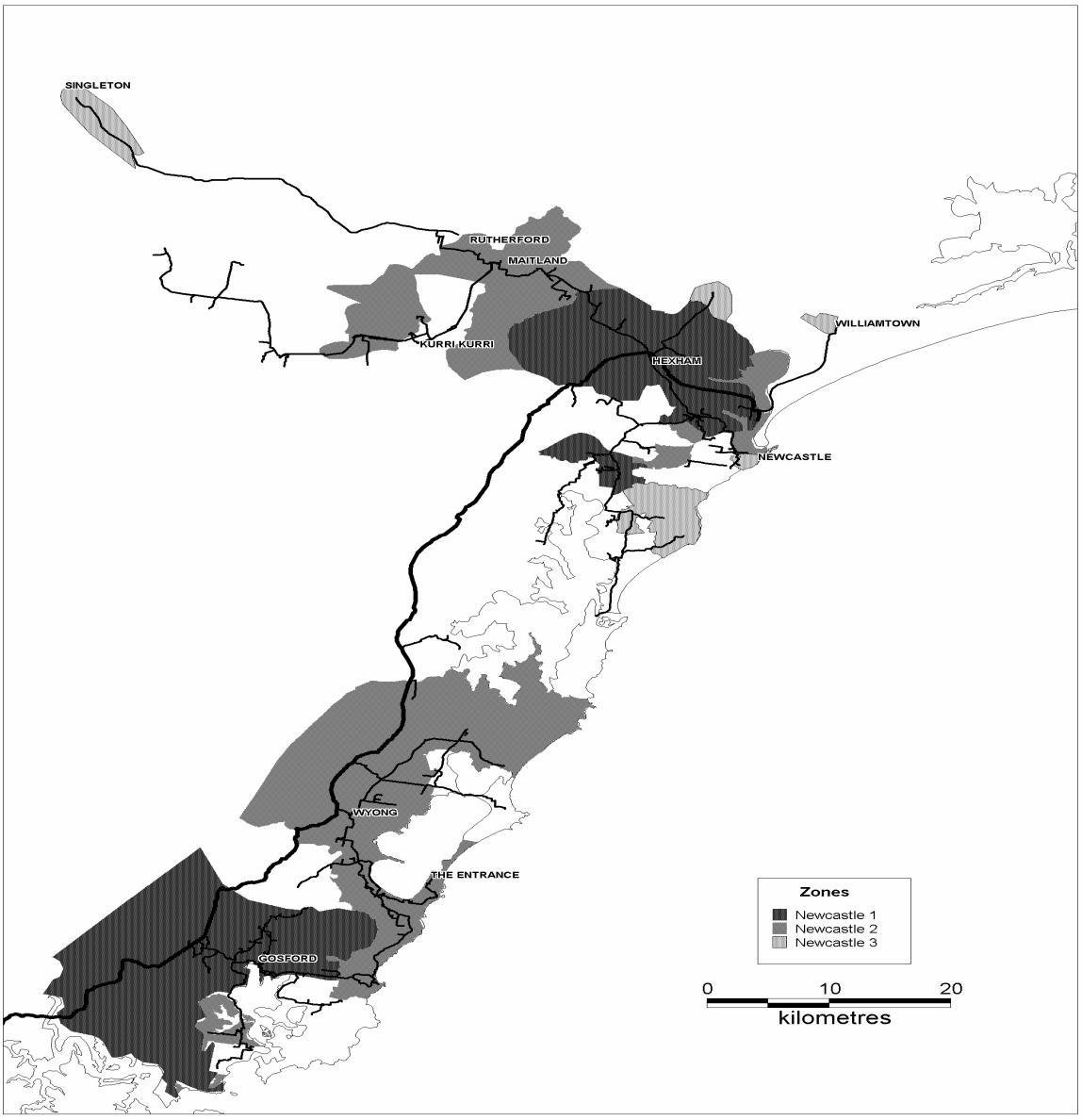
- length of customer service (path valve to meter set);
- surface restoration from front boundary to meter set;
- any walls to be pierced or other obstacle, eg. stairs, retaining walls etc. to be negotiated;
- all buildings and any other permanent structures on the site;
- side and front building lines, and kerb line;
- bearing (north).

SCHEDULE 7: SYDNEY, NEWCASTLE AND WOLLONGONG LOCAL NETWORK PRICE ZONES, AND POSTCODES TO WHICH TRUNK EXIT ZONES APPLY

SYDNEY LOCAL NETWORK PRICE ZONE

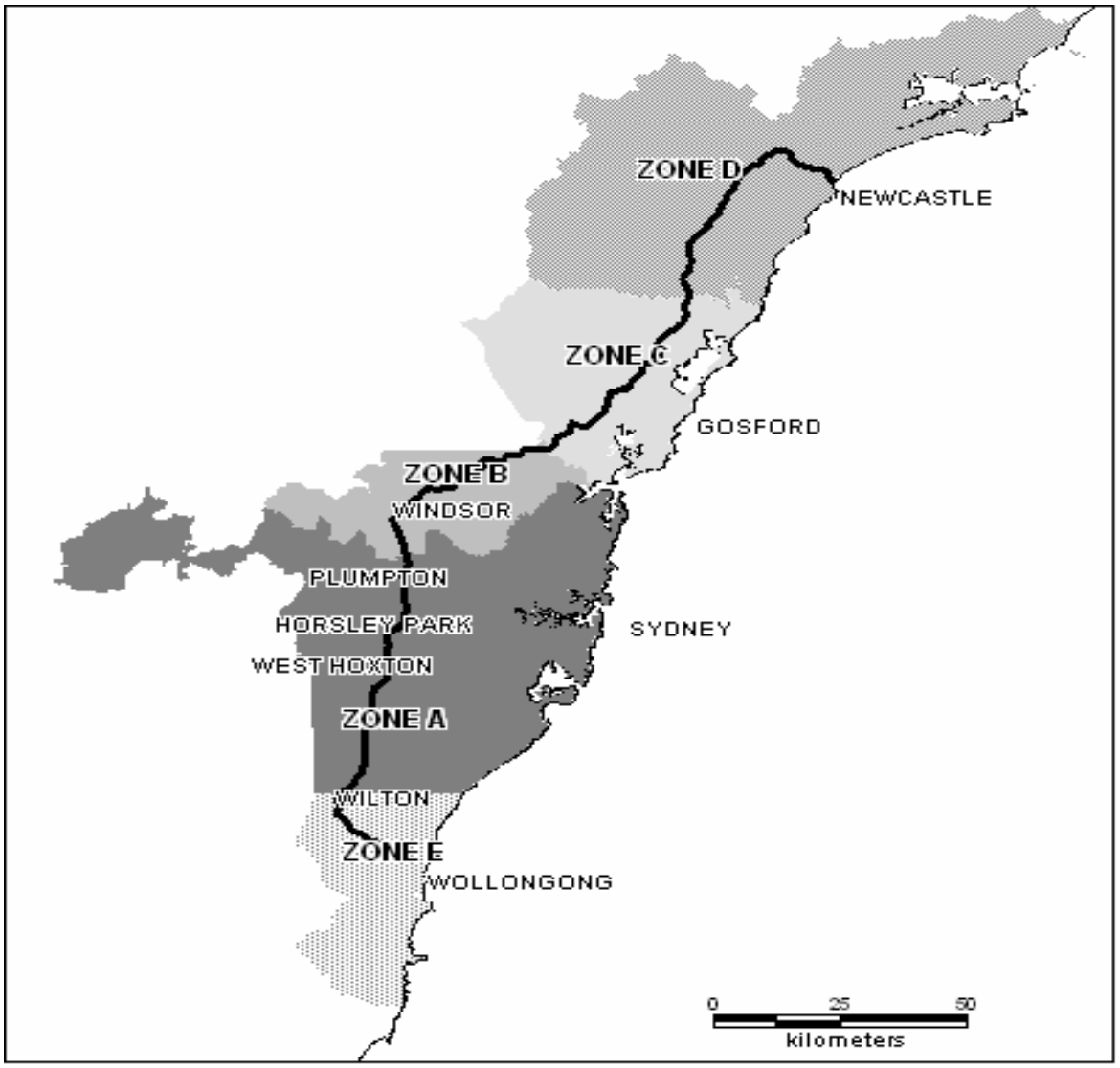


NEWCASTLE LOCAL NETWORK PRICE ZONES



WOLLONGONG LOCAL NETWORK PRICE ZONES

TRUNK EXIT ZONES



SCHEDULE 8: RECEIPT POINT PRESSURES

	RECEIPT AND SUPPLY POINTS								
	TRS Location	Max. Receipt Pressure (kPa)	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	POTS Location	Max. Receipt Pressure (kPa)	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	
Moomba – Young (APT)					West Wyalong	10,000	1,750	1,750	Bland
Young – Lithgow (APT)	Cowra Blayney Orange Bathurst Oberon Lithgow	10,000 10,000 10,000 10,000 10,000 10,000	1,750 1,750 1,750 1,750 1,750 1,750	1,750 1,750 1,750 1,750 1,750 1,750	 Millthorpe Wallerawang	 10,000 10,000	 1,750 1,750	 1,750 1,750	Cowra Blayney Orange Orange Bathurst Evans Oberon Greater Lithgow Greater Lithgow
	Young Cootamundra Rockdale Yoogali (Griffith)	7,000 3,500 10,000 10,000	1,750 1,750 1,750 1,750	1,750 1,750 1,750 1,750	 Junee Coolamon Ganmain Narrandera Leeton Murrami	 10,000 10,000 10,000 10,000 10,000 10,000	 1,750 1,750 1,750 1,750 1,750 1,750	 1,750 1,750 1,750 1,750 1,750 1,750	Young Cootamundra Junee Coolamon Coolamon Narrandera Narrandera Leeton Narrandera Griffith

	RECEIPT AND SUPPLY POINTS								
	TRS Location	Max. Receipt Pressure (kPa)	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	POTS Location	Max. Receipt Pressure (kPa)	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	
Young – Wilton (APT)	Goulburn Marulan Mossvale Bowral	7,000 7,000 7,000 7,000	1,750 1,750 1,750 1,750	1,750 1,750 1,750 1,750	Boorowa Yass Sally's Corner Bargo	7,000 7,000 7,000 7,000	1,750 1,750 1,750 1,750	1,750 1,750 1,750 1,750	Boorowa Yass Goulburn Mulwaree Wingecarribee Mittagong Wingecarribee Wingecarribee
Wilton CTS		7,000	3,800+						
Wilton to Mount Kiera (AGL)	Mt Keira	7,000	3800+	1,750					
Mt Keira-Wollongong (AGL)	Wollongong	3,500	2,600	1,750					Wollongong Shellharbour Kiama
Wilton-Horsley Park (AGL)	Appin Campbelltown West Hoxton	7,000 7,000 7,000	3,800+ 3,800+ 3,800+	1,750 1,750 1,750	Appin	7,000	3,800	1,750	Wollondilly Sydney (see list)
Horsley Park-Plumpton (AGL)	Horsley Park Eastern Creek	7,000 7,000	3,800+ 3,800+	3,500 3,500					Sydney (see list)

	RECEIPT AND SUPPLY POINTS								
	TRS Location	Max. Receipt Pressure (kPa)	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	POTS Location	Max. Receipt Pressure (kPa)	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	
Plumpton-Kooragang Island (AGL)	Plumpton Windsor	7,000 7,000	3,800+ 3,800+	1,750 1,750	Maroota	7,000	3,800	1,750	Sydney (see list)
	Gosford Wyong	7,000 7,000	3,800+ 3,800+	1,750 1,750	Warnervale	7,000	3,800	1,750	Gosford Wyong
	Hexham Kooragang Island	7,000 7,000	3,800+ 3,800+	1,750 1,750	Wyee Morisset Minmi	7,000 7,000 7,000	3,800 3,800 3,800	1,750 1,750 1,750	Lake Macquarie Newcastle Maitland Cessnock Singleton Muswellbrook Port Stephens
Marsden – Dubbo (APT)	Dubbo	10,000	1,750	1,750	Dubbo West Forbes Parkes Narromine	10,000 10,000 10,000 10,000	1,750 1,750 1,750 1,750	1,750 1,750 1,750 1,750	Dubbo Wellington Forbes Parkes Narromine
–									
Horsley Park CTS (EGP)		7,000	3,600+						

	RECEIPT AND SUPPLY POINTS								
	TRS Location	Max. Receipt Pressure (kPa)	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	POTS Location	Max. Receipt Pressure (kPa)	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	
Port Kembla CTS (EGP		3,500	2,600+						

If marked "+" then the Minimum Receipt Pressure may be subject to future increase to the maximum receipt pressure

AGL GAS NETWORKS

Access Arrangement Information for NSW Network

December 2003

AGL Gas Networks Limited
ACN 003 004 322
ABN 87 003 004 322

AGL GAS NETWORKS LIMITED

ACCESS ARRANGEMENT INFORMATION FOR NSW NETWORK

TABLE OF CONTENTS

1. INTRODUCTION

This Access Arrangement Information (AAI) for AGL Gas Networks Limited (AGLGN) contains information intended to enable Users and Prospective Users to understand the derivation of the elements of the Access Arrangement (AA) and should be read in conjunction with the Access Arrangement for AGLGN.

The information is presented under the following sections:

Section 2 – Review of the Previous Regulatory Period 2000/2004
Section 3 – Access and Pricing Principles
Section 4 – Demand Forecasts
Section 5 – Capital Costs
Section 6 – Non Capital Costs
Section 7 – Total Revenue
Section 8 – Cost Allocation to Contract and Tariff
Section 9 – Revenue Allocation and Pricing Structures
Section 10 – System Capacity and Volume Assumptions
Section 11 – Key Performance Indicators

Further information is provided in the following attachments:

Attachment 1 – Maps of the System
Attachment 2 – Extent of AGLGN Networks
Attachment 3 – Assessment Ratings for Postcodes
Attachment 4 – Index of National Access Code Attachment A to this Access Arrangement Information
Attachment 5 – Asset Valuation of Trunk Zones and Distribution System Regions

NOTE:

The Gas Pipelines Access (New South Wales) (Savings and Transitional) Amendment Regulation 2002 ("the Savings and Transitional Regulation 2002") has the effect that the following pipelines are taken to comprise a single pipeline:

- Wilton to Newcastle transmission pipeline;
- Wilton to Wollongong transmission pipeline;
- The AGL New South Wales distribution system;
- The AGL Central West system.

The Savings and Transitional Regulation 2002 expires on 30 December 2004.

In addition, Section 2.28A of the Code permits the Regulator to agree that proposed revisions to the AA and AAI may have the effect of applying the revised AA to one or more other Covered Pipelines that have the same Relevant Regulator and Service Provider as the Covered Pipeline to which the proposed revisions and Access Arrangement Information relate. The AGL New South Wales distribution system and the AGL Central West System have the same Relevant Regulator and Service Provider.

AGLGN relies on both the Savings and Transitional Regulation 2002 and Section 2.28A of the Code to treat the following pipelines as a single Covered Pipeline:

- The AGL New South Wales distribution system; and
- The AGL Central West system.

In this document, the transmission pipelines are also referred to as trunks, while the distribution system is also referred to as local network.

Many of the forecasts in this AAI are presented in real 2005 dollars. These forecasts have been prepared assuming an inflation rate of 2.75% for both 2003/04 and 2004/05 and will need to be adjusted in line with actual inflation for those years as it becomes available.

2. REVIEW OF THE PREVIOUS REGULATORY PERIOD 2000/2004

2.1. Key Outcomes

Table 2.1 Summary Of Significant Outcomes 2000-2004

Outcome	2000 IPART Final Decision	Actual/ Forecast	Variance Favourable/ (Adverse)	Variance Favourable/ (Adverse) %
Net Customer Site Growth	150,164	171,045	20,881	13.90%
Capex ($M Nominal)	393.3	337.4	55.9	14.20%
Tariff Sales Volume (PJ)				
• Residential	93.6	95.2	1.6	1.70%
• Business Tariff	60.4	55.8	(4.6)	(7.60%)
Contract Market Demand				
• Annual Volume (PJ)	334.5	346.1	11.6	3.50%
• MDQ (TJ)	1,532	1,478	(54)	(3.5%)
Distribution Revenue ($M Nominal)				
• Tariff	1,270.4	1,250.1	(20.3)	(1.60%)
• Contract	317.3	307.1	(10.2)	(3.20%)
Non-Capital Costs ($M Nominal)				
• Controllable Costs	463.2	466.9	(3.7)	(0.8%)
• Total Costs	559.7	545.7	14.0	2.5%

2.2. Commentary On Outcomes

2.2.1. Net Customer Growth

During the five years to June 2004, it is forecast that AGLGN will increase its number of customer sites by 171,045 which is 20,881 higher than predicted in the Final Decision 2000. This increase is largely due to the extended boom that has been experienced in the Sydney housing market throughout the period.

2.2.2. Capital Expenditure

Forecast Capital Expenditure during the five years to June 2004 is $337.4m, which is $55.9m below that predicted in the Final Decision 2000. The additional capital expenditure required to support the demand for network extension to cope with the Sydney housing boom has been more than offset by the deferral of system upgrade and reinforcement projects.

Further details are outlined in Section 5.

2.2.3. Sales Volume

Sales to the residential market during the five years to June 2004 are forecast to exceed the level assumed in the Final Decision 2000 by 1.6PJ. The effect of the increased customer base has been partly offset by the warmer than normal weather that was experienced during the 2002 and 2003 financial years and the declining average consumption by new customer sites. The declining average consumption is caused by the reduced level of marketing expenditure and increasing energy efficiency of appliances and new dwellings.

Sales to the Business Tariff market are forecast to be 4.6PJ below the Final Decision 2000 assumption. Sales to this market have been stable over the period. AGLGN believes that this situation has been caused by a reduced level of marketing expenditure, the fact that businesses are becoming more energy efficient and the high penetration rate that natural gas now has in this market.

Contract market Maximum Daily Quantity (MDQ) for the five years to June 2004 is forecast to be 3.5% below the forecast in the Final Decision 2000, despite the volume of gas delivered to the contract market exceeding the forecast in the Final Decision 2000 by 3.5%.

2.2.4. Distribution Revenue

Tariff and Contract Distribution Revenue during the five years to June 2004 is forecast to fall short of the level predicted in the Final Decision 2000 by $20.3m and $10.2m respectively.

The shortfall in the tariff market is driven by the lower than expected Business Tariff sales volumes and the pass-through of lower than anticipated operating costs.

For the five years to June 2004 distribution revenue earned from the contract market is now forecast to be 3.2% below the forecast in the Final Decision 2000, reflecting the 3.5% reduction in forecast MDQ's over the same period.

2.2.5. Non-Capital Cost

AGLGN is forecasting controllable non-capital (i.e. operating) costs of $466.9m in the five years to June 2004, which is $3.7m (0.8%) higher than allowed in the Final Decision 2000. This increase is principally due to the incurrence of costs that are not recognised in the Final Decision 2000.

Total non-capital costs are forecast to be $14.0m below the Final Decision 2000 assumption, with savings in Unaccounted for Gas (UAG) losses and government levies more than offsetting the marginal increase in controllable costs. Network users have been the major beneficiaries of these cost savings due to the conditions in the 2000 Access Arrangement relating to Variations to Reference Tariffs.

Further details are outlined in Section 6.

3. ACCESS AND PRICING PRINCIPLES

3.1. Tariff Determination Methodology

The Reference Tariffs in the Access Arrangement for AGLGN have been derived using a cost of service model. The Total Revenue is calculated in accordance with Section 8 of the Code. AGLGN will be able to recover the forecast cost of services if the network achieves its forecast growth and allowed operating costs.

The services provided in the Access Arrangement for AGLGN comprise seven Reference Services, and two Non-Reference Services. These services must be taken separately for the Trunks and Local Networks (except the Meter Data Service which is only available with Local Network reference Services and the Gas Swap Service which is only available to Users of Trunk Reference Services), and the services must be linked. The services are as follows:

(i) Reference Services

Capacity Reservation Service: A Capacity Reservation Service is a service for the transportation of gas by AGLGN from the Receipt Point to a single non-tariff Delivery Point. Charges are determined on the basis of capacity reserved.

There are two additional capacity reservation options being offered by AGLGN:

- ***Summer Tranche option:*** This provides an option to book capacity between the months of October and April (inclusive). Trunk and Local Network charges apply to the extra tranche;

- ***Short Term Capacity option:*** Available to end use customers using gas primarily for the production of goods (subject to available capacity). Two options apply: one for 30 TJ or less of gas per year, the other for over 30 TJ. A Short Term Capacity Charge (premium) may be charged for the under 30 TJ option, and the charge will apply to both the Trunk and Local Network services.

Managed Capacity Service*:* A Managed Capacity Service is a service for the transportation of gas by AGLGN from the Receipt Point to a single non-tariff Delivery Point. Charges are determined on the basis of capacity reserved.

Throughput Service A Throughput Service is a service for the transportation of gas by AGLGN from the Receipt Point to a single non-tariff Delivery Point. Charges are determined on the basis of throughput.

Multiple Delivery Point Service: A Multiple Delivery Point Service is a service for the transportation of gas by AGLGN from the Receipt Point to a number of non-tariff Delivery Points. Charges are based on the relevant service at each Delivery Point.

Tariff Service: A Tariff Service is a service for the transportation of gas by AGLGN from the Receipt Point to one or more Tariff Delivery Points. Charges are determined on the basis of throughput.

Meter Data Service: Meter Data Service is a service comprising the reading of meters and handling of metering data.

Gas Swap Services: Gas Swap Service is a service which entitles Users of Trunk Reference Services to have gas delivered at an alternative Receipt Point on a Day, or transfer gas from one User to another User.

(ii) Non-Reference Services

Interconnection of Embedded Network Services: Interconnection of Embedded Network Services is a service provided by AGLGN for the establishment of a single Delivery Point for an embedded network on either the Trunk or Local Network.

Negotiated Services: An agreement to meet specific needs of users, which are not met by Reference Services or Interconnection of Embedded Network Services.

3.1.1. Local Network Charges

Local Network Charges are based on pricing zones, which are defined by groupings of postcodes. Sydney has five pricing zones, while Wollongong and Newcastle each have three.

The determination of the Reference Tariffs for the above transportation services involve the following broad steps:

- The capital and operating and maintenance costs relating to the network assets are divided into cost pools based on defined asset groups;
- Customer classes are specified on consumption levels i.e. Contract and Tariff customers;
- The cost pools are allocated to the customer classes based on relative usage of those defined asset groups by the relevant customer classes;
- The Reference Tariffs are designed to recover the Total Revenue allocated to each customer class based on the forecast network utilisation after having taken into account prices applied to Decrement customers.

Reference Tariffs in each year of the Access Arrangement for AGLGN are determined from the Total Revenue. The Total Revenue is determined by the following approach:

- The cost of services over the Access Arrangement period are based on rate of return, the rolling forward of the Initial Capital Base, depreciation, forecast New Facilities Investment and non-capital costs; and

- Is calculated as the sum of:

  - a return on the capital base
  - a return on working capital
  - depreciation of the capital base
  - non-capital costs.

The Total Revenue is then smoothed to achieve price stability over the Access Arrangement period.

3.2. Cost Allocation Approach

Details of the allocation approach are given in Section 8 of this Access Arrangement Information.

3.3. Incentive Structures

In accordance with the principles of the Code:

- Reference Tariffs are based on the efficient cost (or anticipated efficient cost) of providing the Reference Services.

- Reference Tariffs are designed to provide a market-based incentive to improve efficiency and to promote efficient growth of the gas market. Tariffs have been designed to provide AGLGN with the ability to earn profits that vary around the profits anticipated in this submission, if it outperforms (or under-performs) against the benchmarks adopted in setting the Reference Tariffs.

The Reference Tariffs are structured to achieve the following incentives:

- *Incentives for efficiency:* If AGLGN is able to achieve cost outcomes (operating and capital) below forecast levels (including the cost of UAG), while maintaining service standards, it will retain the benefits of such efficiency improvements over the Access Arrangement period;

- *Incentives to grow the market:* Incentives exist for AGLGN to increase load growth in the Contract market segment and to expand the Tariff market segment. Prices have been calculated on the basis of a set of revenue and growth projections. If growth turns out to be stronger than forecast, the benefit is retained by AGLGN until the next regulatory review;

- *Incentives for contract customers:* Individual customers have an incentive to reduce their delivered price of gas if they reduce or control their peak demand on the system or if they increase their annual consumption without exceeding their nominated contract MDQ or maximum meter flow rate.

4. DEMAND FORECASTS

The demand forecast is a key component of the analysis underlying much of this AA and AAI. The demand forecast is used to determine:

- The market expansion capital expenditure forecast
- The system reinforcement capital expenditure forecast
- The efficient level of non-capital cost
- The allocation of costs to various market segments and reference services
- The determination of reference tariffs for each reference service

As a consequence, the validity of this AA and AAI is dependent upon the consistency of the various inputs, particularly the demand forecast. It is therefore not possible to change one assumption or forecast in isolation without considering the impact of that change upon the integrity of the entire analysis.

The Demand Forecast is divided into a number of components:

- A forecast of incremental customer numbers
- A forecast of annual demand for the tariff market
- A forecast of annual demand (ACQ) and Maximum Daily Quantity (MDQ) for the contract market
- A forecast of ACQ and MDQ for each of the pipelines and asset components covered in the AA Submission

In assessing the demand forecasts for AGLGN it should be noted that although the tariff market segment represents approximately 33% of the throughput on the network, it generates over 85% of the revenue and is responsible for almost all of the load growth and capital expenditure requirements.

4.1. Incremental Customer Site Numbers

Forecast customer numbers are determined by first referencing the BIS Shrapnel[1] forecast of underlying housing demand in the NSW market.

This forecast is then divided into various market categories and projections are made for each category based on AGLGN's experience in each category. To this is added AGLGN's estimate of existing homes converting from electricity to gas (E to G's) and new development in gas distribution project areas.

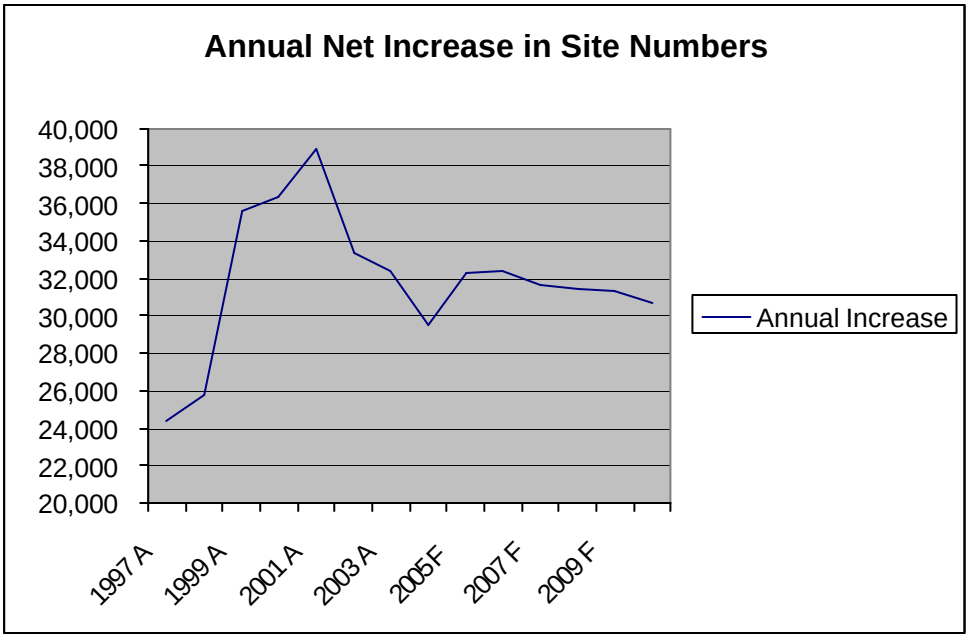
[1] BIS Shrapnel – March 2003 Conferences, Building Industry Prospects (page 25)

The results of this analysis can be summarised as:

Table 4.1 Actual & Forecast Customer Site Numbers

Year Ending June	Annual Increase	Numbers As At June 30
1996 Actual		666,204
1997 Actual	24,324	690,528
1998 Actual	25,798	716,326
1999 Actual	35,635	751,961
2000 Actual	36,353	788,314
2001 Actual	38,862	827,176
2002 Actual	33,359	860,535
2003 Actual	32,384	892,919
2004 Forecast	30,087	923,006
2005 Forecast	31,654	954,660
2006 Forecast	32,296	986,956
2007 Forecast	31,533	1,018,489
2008 Forecast	31,397	1,049,886
2009 Forecast	31,216	1,081,102
2010 Forecast	31,108	1,112,210

Graph 4.2 Actual & Forecast Customer Site Numbers



The actual increase in customer site numbers during 2000 and 2001 were at historical high levels due to the completion of works in the Blue Mountains and Central West project areas and the prolonged Sydney housing boom. A slowdown in the new housing market is predicted by BIS Shrapnel during 2004, as a result of a post-boom correction, followed by a return to a level in line with the long term trend.

No significant new project areas comparable to the Blue Mountains or the Central West are anticipated in the regulatory period.

4.2. Tariff Market Demand Forecast

4.2.1. Residential Demand

The residential market for gas distribution in NSW is characterised by relatively homogeneous groups of customer sites classified by location and type of dwelling. To forecast future demand the incremental customer site numbers in each group is multiplied by the average forecast consumption in each customer group and the incremental load is added to the 2003 base.

To this is added an allowance for consumption growth by the existing customer base, calculated by the current average annual increase in consumption by these customers.

4.2.2. Business Tariff

The business tariff market for gas distribution in NSW differs from the residential market in that it constitutes a smaller group of much more diverse customer sites. Sites consume from between 1GJ and 10,000GJ of gas annually. It also differs from the residential market in that this market experiences minimal growth. Demand in this market has been stable in recent years due to a reduced level of marketing expenditure, the fact that businesses are becoming more energy efficient and the high penetration rate that natural gas now has in this market.

The forecast business tariff load is based upon the current average annual increase in consumption in this market, after allowing for the impact of development in the Blue Mountains and the Central West. The forecast business tariff load is not directly dependent on movements in customer site numbers.

4.2.3. Allowance for Weather Fluctuations

In order to reasonably forecast annual tariff load, it is necessary to adjust for weather fluctuation. This is particularly the case since the two most recent years upon which to base a forecast (2002 & 2003) have been abnormally warm.

Analysis was carried out to determine the effect of temperature on tariff market load. The 2003 load upon which the forecast is based is adjusted upwards to allow for this correction. All subsequent years from 2004 to 2010 are forecast assuming a return to standard temperature patterns.

4.2.4. Summary of Tariff Demand Forecast

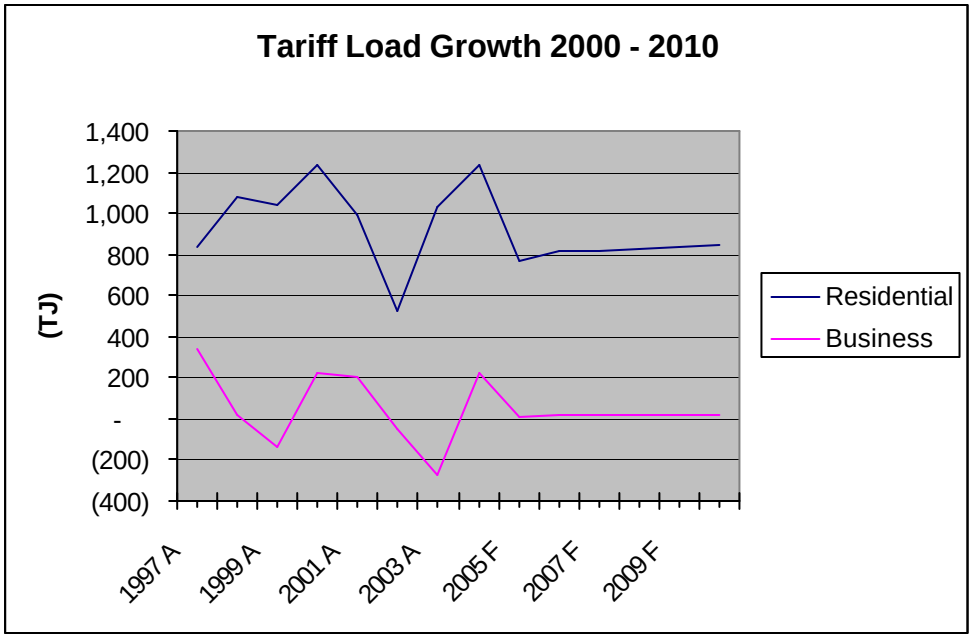
The results of this analysis can be summarised as:

Table 4.3 Actual & Forecast Load

Year Ending June	Load Growth (TJ) Residential	Load Growth (TJ) Business	Total Load (TJ) Residential	Total Load (TJ) Business
1996 Actual			13,103	10,632
1997 Actual	832	335	13,935	10,967
1998 Actual	1,078	16	15,013	10,983
1999 Actual	754	(142)	16,055	10,841
2000 Actual	1,230	219	17,285	11,060
2001 Actual	987	201	18,272	11,261
2002 Actual	521	(50)	18,793	11,211
2003 Actual	1,029	(269)	19,822	10,942
2004 Forecast	1,236	211	21,058	11,153
2005 Forecast	769	(217)	21,827	10,936
2006 Forecast	813	17	22,640	10,953
2007 Forecast	820	16	23,460	10,969
2008 Forecast	827	17	24,287	10,986
2009 Forecast	835	14	25,122	11,000
2010 Forecast	843	14	25,965	11,014

Note: The growth in Business Tariff Load Growth in 2005 is adjusted to allow for 259TJ forecast to transfer to the contract market.

Graph 4.4



Both Residential and Business load growth in 2000 and 2001 are inflated by the completion of works in the Blue Mountains and Central West project areas and the prolonged Sydney housing boom.

Total load in 2002 and 2003 was lower than normally would have been expected due to warmer than standard weather. There is a forecast peak in load growth in 2004 due to the assumed return to normal weather.

4.3. Contract Market Demand

The contract market represents a group of 472 customer sites that use approximately 67% of the gas transported by AGLGN and generate less than 15% of distribution revenue. This is a mature market with load dropping from 68.3PJ in 1996 to 66.4PJ in 2003. Total demand did rise and fall during this period, but this is due to the addition of one major customer site that has since ceased using the network.

It is necessary to forecast both annual load (ACQ) and maximum daily load (MDQ) for the contract market as both variables are used in the determination of reference tariffs.

In forecasting contract market demand, customer sites are segregated into the sixteen major customer sites (that constitute approximately 50% of the contract load) and sixteen industry groups (that constitute the other 50%).

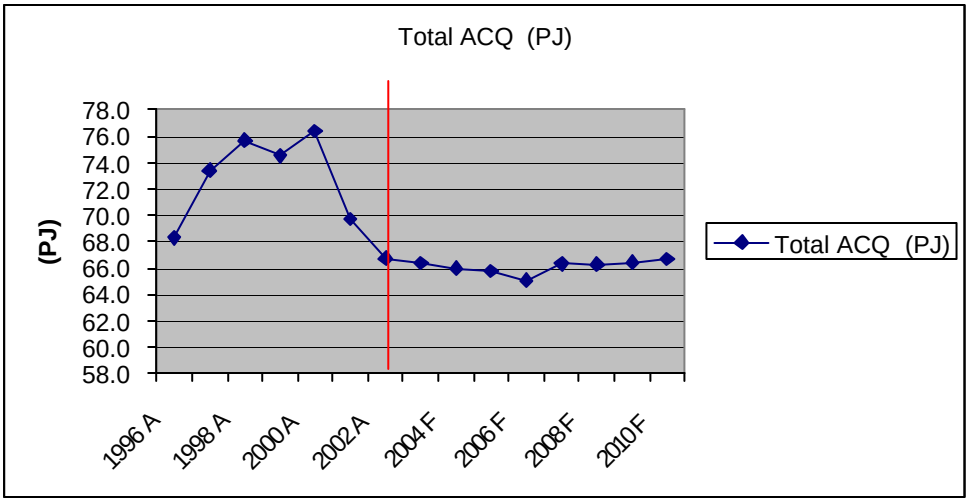
The sixteen major customers were surveyed as to their expected consumption patterns over the forecast period and analysis was carried out of recent ACQ and MDQ patterns for both the major customers and the various industry groups. The results of the surveys and analysis are then used to forecast both ACQ and MDQ for the major customers, industry groups and for each asset classification used in determining reference tariffs.

The results of this analysis can be summarised as:

Table 4.5 Actual & Forecast Contract Load

Year Ending June	ACQ Growth (TJ)	MDQ Growth (TJ)	Total ACQ (TJ)	Total MDQ (TJ)
1996 Actual			68,326	
1997 Actual	5,112		73,438	
1998 Actual	2,280		75,718	
1999 Actual	(1,159)		74,559	
2000 Actual	1,829		76,388	298.4
2001 Actual	(6,658)	3.0	69,730	301.4
2002 Actual	(3,002)	0.0	66,728	301.4
2003 Actual	(365)	(4.8)	66,363	296.6
2004 Forecast	(349)	(16.0)	66,014	280.6
2005 Forecast	(258)	(2.4)	65,756	278.2
2006 Forecast	(659)	1.3	65,097	279.5
2007 Forecast	1,243	0.8	66,340	280.3
2008 Forecast	(53)	0.7	66,287	281.0
2009 Forecast	152	0.8	66,439	281.8
2010 Forecast	256	0.8	66,695	282.6

Graph 4.6 Actual & Forecast Contract Load



4.4. Breakdown of Demand Forecasts into Trunk and Local Networks

In order to allocate costs and therefore determine reference tariffs, it is necessary to segregate the MDQ, ACQ and site number forecasts into Trunk and Local Network components.

The resulting forecasts are as follows:

Table 4.7 Wilton-Newcastle Demand Forecast

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Contract						
Zone A: MDQ (Booked) (GJ)	224,869	225,883	226,306	226,741	227,204	227,683
Zone B: MDQ (Booked) (GJ)	69,388	70,084	70,181	70,279	70,381	70,495
Zone C: MDQ (Booked) (GJ)	67,192	67,835	67,879	67,924	67,973	68,033
Zone D: MDQ (Booked) (GJ)	63,473	64,073	64,073	64,074	64,077	64,082
Total Customer Sites	398	398	398	398	398	398
Tariff						
ACQ (TJ)	27,882	28,595	29,320	30,055	30,798	31,579
Customer Sites	843,320	871,389	898,424	925,337	952,086	978,748

Table 4.8 Wilton-Wollongong Demand Forecast

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Contract						
Zone E: MDQ (Booked) (GJ)	3,824	3,786	3,749	3,713	3,677	3,642
Customer Numbers	19	19	19	19	19	19
Tariff						
ACQ (TJ)	1,971	2,019	2,065	2,111	2,156	2,194
Customer Numbers	60,038	62,323	64,886	67,439	69,981	72,505

Table 4.9 NSW Distribution System – Contract Segment Forecast

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Coastal						
ACQ (TJ)	60,745	60,018	61,192	61,069	61,151	61,337
MDQ (TJ)	253,563	254,528	254,903	255,290	255,706	256,139
Customer Numbers	417	417	417	417	417	417
Country						
ACQ (TJ)	5,010	5,079	5,148	5,218	5,288	5,358
MDQ (TJ)	24,528	24,848	25,170	25,493	25,820	26,145
Customer Numbers	55	55	55	55	55	55
Total						
ACQ (TJ)	65,756	65,097	66,340	66,287	66,439	66,695
MDQ (TJ)	278,091	279,375	280,073	280,783	281,525	282,284
Customer Numbers	472	472	472	472	472	472

Table 4.10 NSW Distribution System – Tariff Segment Forecast

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
ACQ (TJ)	32,763	33,592	34,429	35,273	36,122	36,979
Customer Numbers	954,188	986,484	1,018,017	1,049,414	1,080,630	1,111,738

5. CAPITAL COSTS

5.1. Asset Values and Initial Capital Base (ICB)

5.1.1. Opening Capital Base – Valuation Methodology

In the Final Decision 2000, the Tribunal determined a DORC valuation for system and non-system assets of $2,060.0 million as at 1 July 1996. The Tribunal also set a corresponding depreciated actual cost (DAC) valuation of $961.0 million.

The Final Decision 2000 specified that AGLGN's ICB at 1 July 1996 should be $1,550.0 million, comprising system assets of $1,498.8 million and non-system assets of $51.2 million. This was a re-determination of the Tribunal's 1997 valuation, which was then rolled forward to a capital base at 1 July 1999 of $1,609.8m.

This is consistent with the Code requirement that the value of the ICB should normally lie between DAC and DORC.

The Capital Base for this AA Revision and the allocation of that base to the three covered pipelines is based on the Rolled Forward Capital Base as at June 1999 determined by the Tribunal in its Final Decision 2000.

5.1.2. Allocation of 1999 Asset Base to Three Pipeline Groups

The Final Decision 2000 determined that the Rolled Forward Asset Base as at June 1999 be allocated to the following pipeline groups:

Wilton to Newcastle:	$111.7 million nominal
Wilton to Wollongong:	$9.6 million nominal
NSW distribution system:	$1,488.5 million nominal

5.2. Depreciation

5.2.1. Assumptions on Economic Life of Assets for Depreciation

Economic asset lives are used in calculating regulatory depreciation.

Having determined the economic lives of each asset class, annual regulatory depreciation is calculated for each asset class by applying the straight-line depreciation method to the opening regulatory value of each asset class for each financial year.

Consistent with a current cost approach and the use of a real rate of return, depreciation is calculated on the capital base adjusted for inflation.

The following economic lives are used.

Table 5.1 Economic Asset Lives

Years

Asset Class	Economic Asset Life (Years)
System Assets	
Trunk Main	80
Primary Main	80
Secondary Network	80
Medium Pressure Network	50
Secondary Services	50
Medium/Low Pressure Services	50
Alb Valves	50
Trunk Receiving Stations/Packaged Off Take Stations	50
Primary Reduction Stations	50
Primary Valves	50
Secondary Reduction Stations	50
Meters - Contract *	20
Meters - I&C Tariff *	20
Meters - Domestic *	20
Non System Assets	
To be consistent with the categories and lives adopted for financial reporting	

Note:

* Prior to 1 July 2002 all meters were assumed to have an economic life of 15 years.

In calculating depreciation for each financial year, an allowance is made for the accelerated depreciation on those assets that require replacement prior to the expiration of their forecast economic lives.

Actual depreciation for the period July 1999 to June 2003 is determined by the Regulatory Fixed Asset Register that AGLGN was required to establish in the Final Decision 2000.

Forecast depreciation for the period post July 2003 was determined by reference to the Regulatory Fixed Asset Register (for assets existing prior to June 2003) and using modelling consistent with the assumptions listed above for assets to be acquired post July 2003.

5.2.2. Depreciation/Accumulated Depreciation

Accumulated regulatory depreciation for the capital base at 30 June 2004 is as follows:

Table 5.2 Regulatory Depreciation as at 30 June 2004

$ million

	Escalated Gross Regulatory Value	Accumulated Depreciation
Transmission Pipeline (Wilton-Newcastle)	**174.9**	**54.9**
Transmission Pipeline (Wilton-Wollongong)	**16.3**	**5.2**
Distribution Systems:		
County Packaged Off Take Stations (Pots)	5.4	1.3
Contract Meters	11.9	5.5
Tariff Meters	203.2	95.4
Meter Reading Devices	1.2	1.2
Fixed Plant	32.0	13.0
HP Mains	298.4	79.8
MP Mains	1,408.9	465.1
HP Services	4.4	1.6
MP Services	535.4	112.4
Local Network	**2,279.1**	**672.0**
Total Distribution Systems	**2,501.8**	**775.4**
Total System Assets	**2,693.0**	**835.5**
Non Systems Assets	**123.5**	**90.8**
Total Regulatory Asset Base	**2,816.5**	**926.3**

Forecast depreciation for the period July 2004 to June 2010, is calculated using the methodology set out in Section 5.2.1 is:

Table 5.3 Forecast Depreciation

Nominal $ million

	Wilton/Newcastle	Wilton/Wollongong	Distribution Network	Total
1999/2000	1.9	0.1	55.3	57.3
2000/01	1.9	0.2	55.9	58.0
2001/02	2.0	0.2	58.7	60.9
2002/03	2.1	0.2	57.6	59.9
2003/04	2.2	0.2	61.4	63.8
2004/05	2.2	0.2	62.6	65.0
2005/06	2.2	0.2	67.0	69.4
2006/07	2.2	0.2	72.2	74.6
2007/08	2.2	0.2	77.0	79.4
2008/09	2.2	0.2	81.7	84.1
2009/10	2.2	0.2	86.3	88.7

5.3. Capital Expenditure

5.3.1. Capital Expenditure – 1999/2000 to 2003/04

Sections 8.16 and 8.17 of the Code set out the criteria for including actual capital expenditure in the roll forward of the capital base and for including forecast capital expenditure in the determination of total revenue and reference tariffs.

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A summary of actual capital expenditure for the period 1999/2000 to 2003/04 is as follows:

Table 5.4 Capital Expenditure 1999/2000 to 2003/04

Nominal $ million

	1999/2000	2000/01	2001/02	2002/03	2003/04	Total
Final Decision 2000						
Market Expansion	52.4	38.5	38.9	39.2	38.1	207.1
System Reinforcement /Renewal/Replacement	14.5	42.6	28.5	22.0	23.1	130.7
Non System Assets	10.1	6.2	12.7	13.1	13.5	55.5
Total	**77.0**	**87.3**	**80.1**	**74.3**	**74.7**	**393.3**
Actual/Forecast						
Market Expansion	56.0	55.0	46.3	48.1	47.5	252.8
System Reinforcement /Renewal/Replacement	17.2	13.4	5.6	9.5	17.6	63.3
Non System Assets	5.3	2.2	5.8	2.7	5.2	21.3
Total	**78.5**	**70.5**	**57.7**	**60.4**	**70.3**	**337.4**
Variance						
Market Expansion	(3.6)	(16.5)	(7.3)	(9.0)	(9.4)	(45.7)
System Reinforcement /Renewal/Replacement	(2.7)	29.2	22.9	12.5	5.5	67.4
Non System Assets	4.8	4.0	6.9	10.4	8.2	34.3
Total	**(1.5)**	**16.7**	**22.4**	**13.9**	**4.3**	**55.9**

This expenditure can be further classified into the following categories:

Table 5.5 AGLGN Actual Capital Expenditure

Nominal $ million

	1999/2000	2000/01	2001/02	2002/03	2003/04
Capex By Major Pipelines / Asset Category					
Trunk Wilton-Newcastle	0.0	0.0	0.0	0.0	0.7
Trunk Wilton-Wollongong	0.0	0.0	0.0	0.0	0.0
Country TRS	0.0	0.0	0.0	0.0	0.9
Metering	14.7	14.4	13.4	19.9	21.2
Local Network	63.8	56.1	44.3	40.5	47.5
Total	**78.5**	**70.5**	**57.7**	**60.4**	**70.3**
Capex Split By Program					
Land/Building/Leasehold	2.1	0.1	0.1	0.0	0.0
Plant & Equipment	0.9	0.9	0.2	0.1	1.0
Office Furniture	0.1	0.1	0.0	0.0	0.0
Motor Vehicles	2.0	1.0	1.2	1.6	1.7
IT	0.2	0.0	4.3	0.0	0.8
Access Arrangement	0.0	0.0	0.0	1.0	1.7
Total Non-System Assets	**5.3**	**2.2**	**5.8**	**2.7**	**5.2**
Mains	21.8	20.8	9.7	7.3	9.5
Services	23.4	23.5	23.8	23.1	23.2
Meters	10.8	10.7	12.7	17.7	14.8
Total Market Expansion	**56.0**	**55.0**	**46.3**	**48.1**	**47.5**
Mains	3.2	0.9	2.5	6.7	10.7
Services	0.6	0.4	0.0	0.0	0.5
Programmed Rehabilitation	9.5	8.4	2.4	0.7	0.0
Meters	3.9	3.7	0.7	2.2	6.4
Total System Upgrade	**17.2**	**13.4**	**5.6**	**9.5**	**17.6**
Total	**78.5**	**70.5**	**57.7**	**60.4**	**70.3**

AGLGN has incurred Capital Expenditure for the period 1999/2000 to 2003/04 of $337.4m which is $55.9m (14%) below that forecast in the Final Decision 2000. Major contributors to this have been:

- The deferral of the Sydney Primary Main project. It was assumed that the main would be constructed within the M5 motorway corridor utilising the proposed extension to the M5. Following a number of changes to the M5 project, the construction of the Primary Main in this corridor became infeasible. Alternative routes are being assessed with construction expected to commence in 2004/5.

- Reduced levels of meter replacement following a meter life extension by the Department of Fair Trading (DFT).

- Deferral of the Medium and Low Pressure (M&LP) rehabilitation program.

- Reductions in non-system asset expenditure, due largely to the deferral of IT system replacement and upgrade projects, and the decision to lease much of the vehicle fleet.

- Partly offset by increased M&LP market expansion expenditure in line with the connection of an additional 20,881 customer sites as a result of Sydney's extended residential building boom.

5.3.2. Capital Expenditure – 2004/05 to 2009/10

Sections 8.16 and 8.17 of the Code set out the criteria for including actual capital expenditure in the roll forward of the capital base and for including forecast capital expenditure in the determination of total revenue and reference tariffs.

Consistent with the Code, forecast capital expenditure is summarised:

Table 5.6 Real $ million 2005

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Forecast						
Market Expansion	49.0	51.7	50.3	48.7	48.5	48.4
System Reinforcement /Renewal/Replacement	31.2	63.3	47.0	45.9	30.8	28.2
Non System Assets	12.7	13.0	9.9	8.0	8.2	10.9
Total	**92.9**	**128.0**	**107.2**	**102.6**	**87.5**	**87.5**

This expenditure can be further classified into the following categories:

Table 5.7 AGLGN Actual Capital Expenditure

Real $ million 2005

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Capex By Major Pipelines / Asset Category						
Trunk Wilton-Newcastle	6.4	3.3	0.1	0.7	0.9	0.1
Trunk Wilton-Wollongong	0.2	1.0	0.0	0.0	0.0	0.0
Country TRS	1.7	0.1	0.3	0.1	0.1	0.1
Metering	24.2	23.8	27.0	24.2	26.9	25.6
Local Network	60.4	99.8	79.8	77.6	59.6	61.7
Total	**92.9**	**128.0**	**107.2**	**102.6**	**87.5**	**87.5**
Capex Split By Program						
Plant & Equipment	1.0	1.0	1.0	1.0	1.0	1.0
Motor Vehicles	2.6	1.6	3.2	3.1	2.6	1.6
IT	9.1	10.4	5.7	3.9	3.4	6.6
Access Arrangement Costs	0.0	0.0	0.0	0.0	1.2	1.7
Total Non-System Assets	**12.7**	**13.0**	**9.9**	**8.0**	**8.2**	**10.9**
Mains	9.9	11.9	11.1	9.6	9.5	9.4
Services	23.3	23.8	23.2	23.1	23.0	22.9
Meters	15.8	16.0	16.0	16.0	16.0	16.1
Total Market Expansion	**49.0**	**51.7**	**50.3**	**48.7**	**48.5**	**48.4**
Mains	15.4	41.6	26.5	26.8	10.9	11.3
Services	0.4	0.9	1.0	0.7	0.3	0.3
Programmed Rehabilitation	2.6	9.9	6.6	8.3	6.8	5.2
Meters	8.4	7.8	11.0	8.2	10.9	9.5
Fixed Plant	4.4	3.1	1.9	1.9	1.9	1.9
Total System Upgrades	**31.2**	**63.3**	**47.0**	**45.9**	**30.8**	**28.2**
Total	**92.9**	**128.0**	**107.2**	**102.6**	**87.5**	**87.5**

5.3.2.1. Renewal and Replacement

Major renewal/replacement items included in the forecast are:

- A project to improve security of supply to Sydney which will replace the earlier Sydney Primary Main proposal which had been planned to be completed in the previous Access Arrangement period. Total capital expenditure is now forecast at $50m (real 2005).

- A continuation of the programmed renewal of networks reaching the end of their economic lives at a forecast cost of $39m (Real 2005).

- A continuation of the aged meter replacement program, assuming an extension of the current agreement with the Department of Fair Trading (DFT) at a forecast cost of $55m (real 2005).

- The replacement of key IT functionality that is operating on aging legacy systems which no longer meet operating requirements at a forecast cost of $39m (Real 2005).

5.3.2.2. M & LP Pressure Growth Related Capital – Unit Rates

Growth-related capital includes the construction of new mains, installation of customer services and provision of metering facilities to connect approximately 35,000 new customers sites that are added to the network annually. The level of this expenditure is driven by the number of new customer sites connected and the average costs of connecting each customer.

The average cost of connecting a new residential customer is shown below:

Table 5.8 Average Cost Per Customer Connected

Real $ 2005

Financial Year	Including Major Mains Projects	Excluding Major Mains Projects
2000 Actual	$1,500	$1,173
2001 Actual	$1,468	$1,237
2002 Actual	$1,360	$1,360
2003 Actual	$1,267	$1,267
2004 Forecast	$1,315	$1,315
2005 Forecast	$1,301	$1,301
2006 Forecast	$1,354	$1,292
2007 Forecast	$1,342	$1,300
2005 Forecast	$1,302	$1,302
2009 Forecast	$1,304	$1,304
2010 Forecast	$1,304	$1,304

Major projects include the Blue Mountains, Central West, Singleton and other regions in NSW, which have high initial capital cost of constructing mains.

These unit rates compare favourably to the average cost of connecting a residential customer as reported by the Victorian distributors in the Essential Service Commission (ESC) 2002

Final Decision. The benchmark figures quoted below are the average cost of connecting a customer site in 2001, converted to $ million 2005.

Table 5.9 Benchmark Average Cost Per Customer Connected

Real $ 2005

Network	$ Million 2005
Envestra Victoria	$1,296
Multinet	$1,358
TXU	$1,505
ESC Reasonable Range	$1,230 To $1,570

5.3.2.3. System Reinforcement

Major System Reinforcement items included in the forecast in 2005 are:

- The North Ryde to Turramurra Primary Main extension required to meet increasing load in Northern Sydney, costed at $11m (real 2005).

- Ingleside to North Narrabeen secondary mains forecast capital expenditure of $3.4m. (real 2005).

- The Wollongong to Shellharbour secondary main interconnection is forecast to cost $5m (real 2005).

5.3.3. Capital Commitments

The nature of AGLGN's capital expenditure program is such that it is not generally required to commit significant amounts of capital expenditure in advance. There are no material capital commitments at the time of the submission of the AAI.

5.4. Rolling Forward The Regulatory Capital Base

Consistent with Section 8.9 of the Code, the roll forward of the capital base can be expressed as follows:

Regulatory capital base = initial capital base + new facilities investments – depreciation – redundant capital + asset revaluation - asset disposals – capital contributions.

The 1 July 1999 value of the capital base is rolled forward for the purpose of calculating the Total Revenue requirement over the Access Arrangement period from 1999/2000 to 2009/10. The capital base will be indexed over the period 2000-2010 by the CPI inclusive of the Goods and Services Tax (GST). This is consistent with the approach adopted by IPART in the Final Decision 2000.

The following assumptions are used for projecting the capital base.

- Consumer price index (GST inclusive) as set out in Table 5.10
- Actual and forecast capital expenditure
- Actual and forecast capital contributions
- Actual and forecast asset disposals
- Economic asset lives and remaining asset lives as determined in Section 5.2 above

Table 5.10 Annual CPI

Financial Year	CPI % (GST Inclusive)	CPI % (GST Exclusive)
1999 Actual	1.31	1.31
2000 Actual	2.38	2.38
2001 Actual	5.97	2.89
2002 Actual	2.86	2.86
2003 Actual	3.09	3.09
2004 Forecast	2.75	2.75

5.4.1. Rolling Forward The Regulatory Capital Base 1999/2000 To 2003/04

The combined asset base as at 1 July 1999 is rolled forward to 2003/04 as follows:

Table 5.11 Roll Forward Of Regulatory Capital Base From 1999-2004 – Combined Total

Nominal $ million

	1999/2000	2000/01	2001/02	2002/03	2003/04
Opening Balance	**1,609.0**	**1,648.1**	**1,691.1**	**1,785.7**	**1,830.4**
– Add Revaluation Of Assets	21.0	39.2	101.0	51.1	56.6
– Add Capital Expenditure	78.5	70.5	57.7	60.4	70.3
– Less Depreciation	(57.3)	(58.0)	(60.9)	(59.9)	(63.8)
– Less Capital Contributions	0.0	(1.4)	(0.5)	(1.4)	(0.9)
– Less Disposals	(3.1)	(7.3)	(2.7)	(5.5)	(2.3)
Closing Balance	**1,648.1**	**1,691.1**	**1,785.7**	**1,830.4**	**1,890.3**

Table 5.12 Roll Forward Of Capital Base – Wilton To Newcastle Transmission Pipeline From 1999 To 2004 (Nominal $ million)

	1999/2000	2000/01	2001/02	2002/03	2003/04
Opening Balance	**111.7**	**111.3**	**112.0**	**116.6**	**117.8**
– Add Revaluation Of Assets	1.5	2.6	6.6	3.3	3.7
– Add Capital Expenditure	0.0	0.0	0.0	0.0	0.7
– Less Depreciation	(1.9)	(1.9)	(2.0)	(2.1)	(2.2)
– Less Capital Contributions	0.0	0.0	0.0	0.0	0.0
– Less Disposals	0.0	0.0	0.0	0.0	0.0
Closing Balance	**111.3**	**112.0**	**116.6**	**117.8**	**120.0**

Table 5.13 Roll Forward Of Capital Base – Wilton To Wollongong Transmission Pipeline From 1999 To 2004 (Nominal $ million)

	1999/2000	2000/01	2001/02	2002/03	2003/04
Opening Balance	**9.6**	**9.6**	**9.6**	**10.0**	**10.1**
– Add Revaluation Of Assets	0.1	0.2	0.6	0.3	0.3
– Add Capital Expenditure	0.0	0.0	0.0	0.0	0.9
– Less Depreciation	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)
– Less Capital Contributions	0.0	0.0	0.0	0.0	0.0
– Less Disposals	0.0	0.0	0.0	0.0	0.0
Closing Balance	**9.6**	**9.6**	**10.0**	**10.1**	**11.1**

Table 5.14 Roll Forward Of Capital Base – AGLGN Distribution System From 1999 To 2004 (Nominal $ million)

	1999/2000	2000/01	2001/02	2002/03	2003/04
Opening Balance	**1,487.7**	**1,527.3**	**1,569.5**	**1,659.1**	**1,702.5**
– Add Revaluation Of Assets	19.5	36.4	93.7	47.5	52.5
– Add Capital Expenditure	78.5	70.5	57.7	60.4	68.7
– Less Depreciation	(55.3)	(55.9)	(58.7)	(57.6)	(61.4)
– Less Capital Contributions	0.0	(1.4)	(0.5)	(1.4)	(0.9)
– Less Disposals	(3.1)	(7.4)	(2.6)	(5.5)	(2.2)
Closing Balance	**1,527.3**	**1,569.5**	**1,659.1**	**1,702.5**	**1,759.2**

5.4.2. Rolling forward the Regulatory Capital Base 2005 to 2010

The combined asset base as at 1 July 2004 is rolled forward to 2005/10 as follows:

Table 5.15 Roll Forward Of Regulatory Capital Base From 2005 To 2010 – Combined Total
Nominal $ million

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Opening Balance	**1,890.3**	**1,967.3**	**2,080.7**	**2,173.6**	**2,262.3**	**2,335.0**
– Add Revaluation Of Assets	52.0	54.2	57.2	59.7	62.2	64.3
– Add Capital Expenditure	92.9	131.5	113.2	111.3	97.5	100.2
– Less Depreciation	(65.0)	(69.4)	(74.6)	(79.4)	(84.1)	(88.7)
– Less Capital Contributions	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)
– Less Disposals	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)
Closing Balance	**1,967.3**	**2,080.7**	**2,173.6**	**2,262.3**	**2,335.0**	**2,407.9**

Table 5.16 Roll Forward Of Capital Base – Wilton To Newcastle Transmission Pipeline From 2005 To 2010
Nominal $ million

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Opening Balance	**120.0**	**127.5**	**132.3**	**133.8**	**136.0**	**138.5**
– Add Revaluation Of Assets	3.3	3.6	3.6	3.6	3.7	3.8
– Add Capital Expenditure	6.4	3.4	0.1	0.8	1.0	0.1
– Less Depreciation	(2.2)	(2.2)	(2.2)	(2.2)	(2.2)	(2.2)
– Less Capital Contributions	0.0	0.0	0.0	0.0	0.0	0.0
– Less Disposals	0.0	0.0	0.0	0.0	0.0	0.0
Closing Balance	**127.5**	**132.3**	**133.8**	**136.0**	**138.5**	**140.2**

Table 5.17 Roll Forward Of Capital Base – Wilton To Wollongong Transmission Pipeline From 2005 To 2010 Nominal $ million

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Opening Balance	**11.1**	**11.4**	**12.6**	**12.7**	**12.8**	**12.9**
– Add Revaluation Of Assets	0.3	0.3	0.3	0.3	0.3	0.4
– Add Capital Expenditure	0.2	1.1	0.0	0.0	0.0	0.0
– Less Depreciation	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
– Less Capital Contributions	0.0	0.0	0.0	0.0	0.0	0.0
– Less Disposals	0.0	0.0	0.0	0.0	0.0	0.0
Closing Balance	**11.4**	**12.6**	**12.7**	**12.8**	**12.9**	**13.1**

Table 5.18 Roll Forward Of Capital Base – AGLGN Distribution System From 2004 To 2010 Nominal $ million

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Opening Balance	**1,759.2**	**1,824.4**	**1,935.9**	**2,027.1**	**2,113.4**	**2,183.4**
– Add Revaluation Of Assets	48.4	50.3	53.2	55.7	58.1	60.2
– Add Capital Expenditure	86.3	127.1	113.1	110.5	96.5	100.1
– Less Depreciation	(62.6)	(67.0)	(72.2)	(77.0)	(81.7)	(86.3)
– Less Capital Contributions	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)
– Less Disposals	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)
Closing Balance	**1,828.4**	**1,935.9**	**2,027.1**	**2,113.4**	**2,183.4**	**2,254.5**

5.5. Allocation of Net Working Capital

Net working capital is allocated entirely to the distribution system as follows:

Table 5.19 Working Capital

Financial Year	Nominal $ Million
2005 Forecast	46.8
2006 Forecast	48.6
2007 Forecast	51.6
2008 Forecast	54.5
2009 Forecast	57.7
2010 Forecast	61.7

5.6. Rate of Return

The Rate of Return is determined using the Capital Asset Pricing Model (CAPM) to determine the Weighted Average Cost of Capital (WACC). AGLGN supports the use of a pre-tax real WACC derived using the forward transformation method and the statutory tax rate. IPART has indicated its intention to use this approach in assessing electricity network tariffs and AGLGN has also adopted this approach.

The parameters used in the determination of WACC are set out below.

5.6.1. Parameters Used To Determine WACC

5.6.1.1. Nominal And Real Risk Free Rate

The nominal risk free rate is based on the 20-day historical average yield on the benchmark October 2013 Commonwealth Government bonds to 7 November 2003 which is 5.51%.

The real risk free rate is based on the 20-day historical average yield on the benchmark August 2015 Commonwealth Government bonds to 7 November 2003 which is 3.43%.

5.6.1.2. Implied Inflation

The imputed inflation rate is derived as the difference between the observed yields on the 10-year nominal bonds and the 10-year CPI indexed government bonds.

Based on the observed yields discussed in Section 5.6.1.1 the imputed inflation rate is 2.01%.

5.6.1.3. Betas

AGLGN is aware of the extensive debate about beta factors. It is possible to undertake complex studies into asset betas, equity betas and debt betas. Unfortunately, attempts to introduce apparent precision into the estimation of beta belie the inherent inaccuracy in historical observations and their relevance to the future.

AGLGN believes the use of a beta representative of the market average, i.e. unity, is the most satisfactory course. While it is arguable that a gas distributor's cash-flow is more reliable than that of the average company, it is also noted that the proposed gearing is relatively high.

AGLGN proposes an equity beta of 1.0 which, given the other parameters proposed, is equivalent to an asset beta of 0.4.

5.6.1.4. Market Risk Premium (MRP)

AGLGN believes that historical based estimates of the MRP, particularly those spanning long time periods, are the most appropriate and relevant proxy for the forward–looking equity risk premium that is taken into account in the CAPM. The majority of empirical studies that measure the historical MRP over long periods of time point towards a range of 5.5% to 6.5%.

5.6.1.5. Gearing

The gearing ratio is taken to be 60% debt and 40% equity. This ratio is considered prudent for a stand-alone gas distribution business. It is consistent with the proposed figure for beta and the allowance for debt margin.

5.6.1.6. Debt Margin

AGLGN believes that an appropriate debt margin will fall in the range of 1.3% to 1.8%.

This range is determined with reference to the data on corporate credit spreads for securities with a BBB+ to BBB- ratings as supplied by CBA Spectrum, together with a margin of 12.5 basis points for debt raising costs. This is consistent with the December 2003 debt placement by the BBB rated TXU (Australia) which was reported at 175 basis points above the Government Bond rate, plus costs.

5.6.1.7. Tax Rate

The corporate income tax rate is taken to be 30% in line with the statutory rate and the proposed method for transformation of post-tax nominal WACC into pre-tax real.

5.6.1.8. Dividend Imputation Utilisation Rate

The value of imputation credits is the subject of much debate between regulators and regulated businesses and AGLGN strongly believes there is a great deal of credibility in the arguments that gamma should be set at 0.0.

However in recognition of the precedent set by IPART and other Australian Regulators AGLGN has assumed a gamma in the range of 0.5 to 0.3.

5.6.2. WACC Outcome

5.6.2.1. Feasible Range

Table 5.20 WACC Estimates Based On Final Decision

	Feasible Range	
Parameters	**Low**	**High**
Nominal Risk Free Rate (%)	5.51	5.51
Real Risk Free Rate (%)	3.43	3.43
Implied Inflation Expectation(%)	2.01	2.01
Asset Beta	0.40	0.40
Equity Beta	1.00	1.00
Debt Beta	0.00	0.00
Market Risk Premium (%)	5.50	6.50
CAPM Cost Of Equity	**11.01**	**12.01**
Gearing (%)	60.00	60.00
Debt Margin (%)	1.26	1.77
Pre-Tax Cost Of Debt (%)	6.77	7.28
Tax Rate (%)	30.00	30.00
Dividend Imputation Utilisation Rate (%)	50.00	30.00
Post-Tax Nominal WACC (%)	6.47	7.31
Pre-Tax Real WACC (%)	7.09	8.27

5.6.2.2. Asymmetric Risk

A consequence of the use of the CAPM to determine WACC, is that the only risks considered in the calculation of the Rate of Return are diversifiable normally distributed risks. It must be recognised however that there are significant asymmetric business and regulatory risks that are not incorporated in the CAPM for which investors must reasonably be compensated.

Examples of asymmetric risks experienced by a gas distribution business are:

- The risk of asset stranding or bypass;
- The risk of changes to regulatory policy or practice; and
- The nature of regulation which exposes the investor to significant risk that regulatory returns will not be met, with little likelihood that they could be exceeded.

By nature these risks are difficult to quantify but, at the very least, a rate of return towards the upper end of the feasible range should be adopted in recognition of their significance.

5.6.2.3. Conclusion

In consideration of the feasible range of real pre-tax WACC, and the unrecognised asymmetric risk, AGLGN has adopted a real pre-tax WACC of 7.85%.

6. NON CAPITAL COSTS

6.1. Controllable Costs

The Final Decision 2000 separated non-capital costs into controllable costs and other costs and then further divided those categories into various sub-categories. 'Controllable' costs are defined as total non-capital costs excluding government levies, unaccounted for gas and costs associated with retail contestability. These other costs are dealt with separately (see discussion below under 'Other Costs').

In this submission, the sub-category of "Corporate Overheads" that was included in the Final Decision 2000 is replaced by the sub-category "Administrative Overheads" as "Corporate Overheads" represented a group of costs that were relevant to the AGL corporate structure in 1998, but no longer have any relevance.

6.2. Other Costs

The Final Decision 2000 separated certain non-capital costs from "controllable costs" and specified that mechanisms be put in place to allow variations in these costs to flow-through to reference tariffs. Costs treated in this way were:

- *Unaccounted for gas (UAG)*

- *Retail contestability*

- *Government levies*

In this submission the mechanism set out for varying reference tariffs for UAG is retained and is set out in Section 3.11(b) of the AA.

In this submission the mechanisms for varying retail contestability costs and government levies have been incorporated in Section 3.11(c) of the AA.

6.3. Non Capital Costs 2000-2004

A summary of actual/forecast non-capital cost for the period 2000 to 2004 is set out below:

Table 6.1 Operating Costs
Nominal $ million

Year Ending June	1999/2000 Actual	2000/01 Actual	2001/02 Actual	2002/03 Actual	2003/04 Forecast
Controllable Costs					
Operation And Maintenance	54.1	57.3	61.4	60.7	65.2
Administration & Overheads	17.0	18.4	17.8	17.9	18.2
Marketing	23.3	17.1	12.4	13.1	13.1
Controllable Opex	94.4	92.8	91.6	91.7	96.5
Other Costs					
Government Levies	6.4	5.3	4.4	3.8	3.8
Retail Contestability	0.0	0.0	4.5	4.7	4.7
UAG	10.2	8.1	6.8	7.7	8.3
Total Opex	111.0	106.2	107.3	107.9	113.3
Allowable Costs In Final Decision 2000					
Controllable Costs	97.4	94.4	90.9	90.6	90.0
Total Costs	112.4	109.9	112.6	112.9	111.9
Variation Of Actual Costs From Final Decision					
Controllable Costs	3.0	1.6	(0.7)	(1.1)	(6.5)
Total Costs	1.4	3.7	5.3	5.0	(1.4)

AGLGN has been able to largely achieve the efficiency savings assumed by IPART in its Final Decision 2000, which included 3% annual cumulative efficiency savings. Actual controllable costs have been marginally above the allowable level due to the incurrence of costs that were not considered in the Final Decision 2000.

Actual controllable costs include items such as the rehabilitation of former gas works sites and other provisions that have not been incorporated into forecast costs for 2005-2010. These costs however also include the cost of certain activities of the type provided to the market by Vencorp and the Office of Gas Safety in Victoria. These activities include managing load shedding, monitoring gas quality, gas balancing, type B appliance approvals and audit of gasfitting installations. These activities have been referred to as "Market Operations" in the document. AGLGN believes that these costs were overlooked when the Tribunal established the assumed efficient level of costs in the Final Decision 2000.

Other Costs have been significantly below the level assumed in the Final Decision 2000 due largely to reductions in UAG and authorisation fees. Reference Tariffs have been reduced as a result of these savings.

6.3.1. Ancillary Services

Revenue forecast to be received for the provision of Ancillary Services has been treated as a cost recovery and combined with Operating and Maintenance Cost in the determination of total Non-Capital Costs.

6.4. Forecast Non-Capital Costs 2004-2010

6.4.1. Marketing Costs

Following the Final Decision 2000, marketing costs incurred by AGLGN have dropped by 13.3%, a saving of $10m in 2004. The negative impact of this reduction has been experienced by reductions in the number of customers converting from electricity to gas, the average consumption of new customer sites and usage in the business tariff market.

In the period 2005 to 2010, AGLGN proposes that marketing costs be retained at the 2004 level (in real $M) plus the addition of $3m per annum to promote the conversion of existing gas customers who do not use gas for water heating, to the use of gas water heating appliances. As with existing marketing expenditure, AGLGN can show that this additional hot water campaign will benefit all customers by reducing reference tariffs over the medium term.

6.4.2. Other Controllable Costs (Excluding Marketing)

The Final Decision 2000 recognised that AGLGN was broadly comparable with other Australian operators when marketing expenditure was excluded from the analysis. In addition, the Final Decision considered AGLGN could achieve productivity growth in line with forecast industry trends. Therefore, a 3 per cent cumulative annual reduction in costs was applied to Operating and Maintenance (O&M) and Corporate Overheads (ie non-capital costs net of marketing).

With the exception of marketing costs, AGLGN has largely adopted the formula set out in the Final Decision 2000 to forecast controllable costs for the period 2005 to 2010.

Costs currently forecast for 2004 are used as the base, after excluding certain one-off costs that are not forecast to be repeated in subsequent years.

The only variation to the formula used in the Final Decision 2000 is a reduction in the assumed annual efficiency factor from 3% to 1.5%. It is not realistic to assume that an efficient service provider can achieve further 3% annual efficiency savings indefinitely.

The effect of this assumption is that AGLGN will achieve efficiency savings of 9% over the period 2005 to 2010, in addition to the savings of 14% assumed in the Final Decision 2000.

6.4.3. Other Costs

6.4.3.1. UAG

AGLGN is forecasting UAG will remain at the level experienced in 2003 of 2.2% of total gas deliveries into the network.

6.4.3.2. Retail Contestability

Details of the Forecast Retail Contestability Costs are set out below:

Table 6.2 Retail Contestability Costs

Real 2005 $ million

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Retail Contestability Costs	3.9	3.9	3.9	3.9	3.9	3.9

This forecast is based on the assumption that there will be no major changes to market rules or regulatory requirements throughout the period. It does not provide for the further development or standardisation of B2B systems that may be required as those requirements are not yet clear.

6.4.3.3. Government Levies

Details of the Forecast Government Levies are set out below:

Table 6.3 Government Levies

Real $2005 million

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Authorisation Fees	1.7	1.7	1.7	1.7	1.7	1.7
Mains Tax	2.2	2.2	2.2	2.2	2.2	2.2
Total Government Levies	**3.9**	**3.9**	**3.9**	**3.9**	**3.9**	**3.9**

In 1998 the NSW Government passed legislation to repeal mains tax, yet has not proceeded to make that change effective. Should this legislation be enacted then reference tariffs will fall by an amount equal to the mains tax assumed payable in this submission.

6.4.4. Summary Of Non Capital Costs

Table 6.4 Operating Costs

Real $2005 million

Year Ending June	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Controllable Costs						
Operation & Maintenance	61.4	61.5	62.2	62.5	62.9	63.2
Administration & Overheads	18.9	19.0	19.2	19.3	19.3	19.4
Market Operations	4.3	4.3	4.3	4.3	4.3	4.3
Marketing	16.5	16.5	16.5	16.5	16.5	16.5
Real Controllable Opex	101.1	101.3	102.2	102.6	103.0	103.4
Other Costs						
Government Levies	3.9	3.9	3.9	3.9	3.9	3.9
Retail Contestability	3.9	3.9	3.9	3.9	3.9	3.9
UAG	9.1	9.1	9.3	9.3	9.4	9.5
Total Opex	118.0	118.2	119.7	119.7	120.2	120.7

6.5. Key Performance Indicators (KPI's)

It is generally recognised that there are two major cost drivers that, all other things being equal, impact on the non-capital costs of gas distribution businesses. These drivers are the number of customer sites and the length of the distribution network. Consequently, there are two major key performance indicators of operating efficiency: operating costs per customer site, and operating cost per Km of distribution network (main).

In order to gauge efficiency it is necessary to evaluate both KPI's.

In addition, if these KPI's are to be used to compare the efficiency of separate service providers it is first necessary to allow for the differing levels of marketing costs that may be appropriate across differing distribution areas.

The need to incur marketing costs to promote gas utilisation is determined by a number of factors. Importantly operational efficiency is not one of those factors. Factors that determine the need to market gas include the weather, existing market penetration, the price differential between gas & alternative energy sources and the cultural inclination of consumers in a distribution area to use gas. This last point is in turn influenced by a number of factors such as the length of time natural gas has been available, the weather and the history of ownership of gas and electricity utilities.

The consequence of the above is that in some markets (eg Victoria), it is natural for consumers to automatically connect gas to a new dwelling, whereas in others (eg Sydney and Brisbane) consumers need to be encouraged to use gas.

The decision as to what is the appropriate level of marketing expenditure comes down to an economic decision as to whether the marginal cost of additional marketing expenditure exceeds the NPV of the marginal cash flow generated. Only if the appropriate level of marketing costs is set, based on the criteria described above, can users benefit from the lowest medium term reference tariffs. This criterion is not related to KPI's.

6.5.1. Comparisons With Other Australian Service Providers

To make any meaningful comparison of the KPI's of AGLGN and other Australian gas distributors, particularly those operating in Victoria, it is first necessary to eliminate from AGLGN's cost base those costs that are not incurred by other Australian service providers. These costs include:

- UAG (Victoria only);
- Meter Reading (Victoria only);
- Market Operation activities (Victoria only); and
- Authorisation Fees and Mains Tax which are not levied in other states.

In making the comparisons, estimated UAG, Meter Reading and Market Operation costs have been deducted from the total reported operating costs of the Queensland and South Australian distributors, to make all states comparable with Victoria.

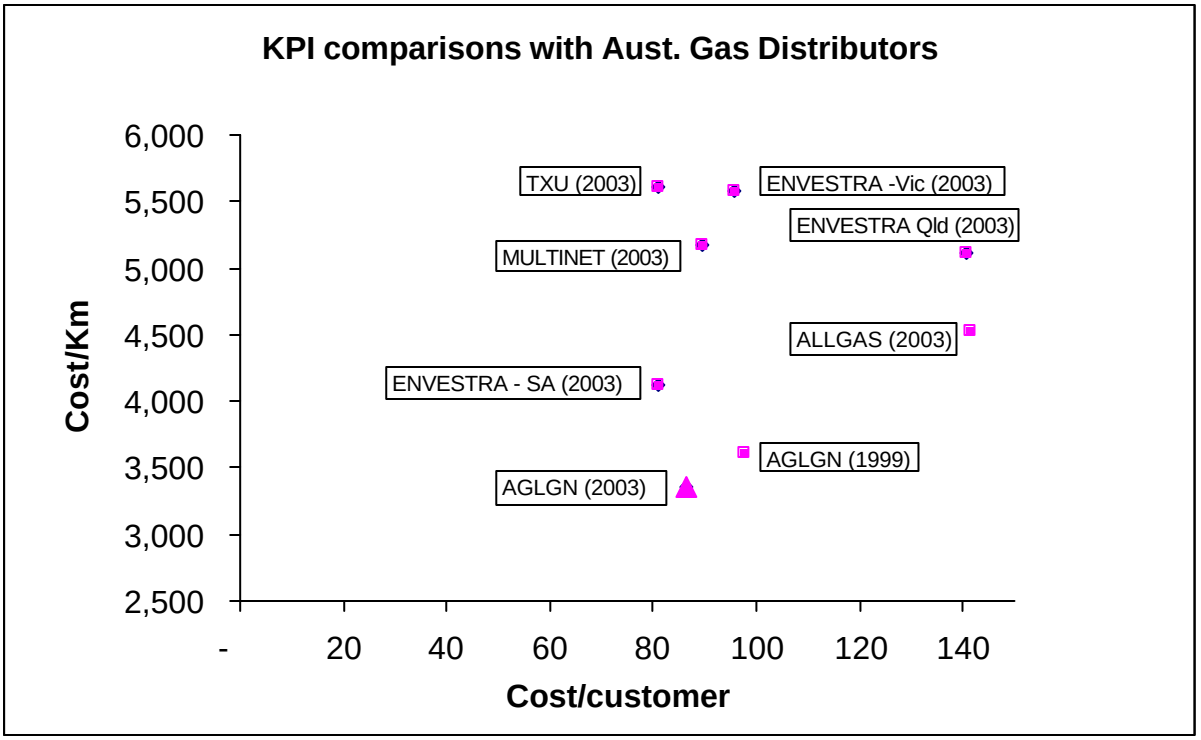
After allowing for the adjustments listed above and eliminating marketing costs, KPI's of the major Australian gas distributors are shown below:

Table 6.5 KPI's for Australian Gas Distributors - Real $ 2003

	Non Capital Cost /Customer Site	Non Capital Cost /Km Of Main
AGLGN (1999)	98	3,619
AGLGN (2003)	86	3,358
Envestra SA (2003)	81	4,120
Envestra QLD (2003)	141	5,121
TXU (2003)	81	5,615
Envestra VIC (2003)	96	5,575
Multinet (2003)	89	5,174
Allgas QLD (2003)	142	4,530

This can be show in graphical form:

Graph 6.6



The KPI's show that AGLGN compares favourably with other Australian gas distributors.

6.5.2. Efficiency Improvements 2000 to 2010

Actual efficiency improvements from 1999/2000 to 2002/03 and forecast efficiency improvements to 2009/10 are shown in table 6.7 and graph 6.8.

As set out in Section 6.5.1. a number of costs need to be extracted to derive a "net operating cost" that is comparable to the cost incurred by other Australian gas distributors.

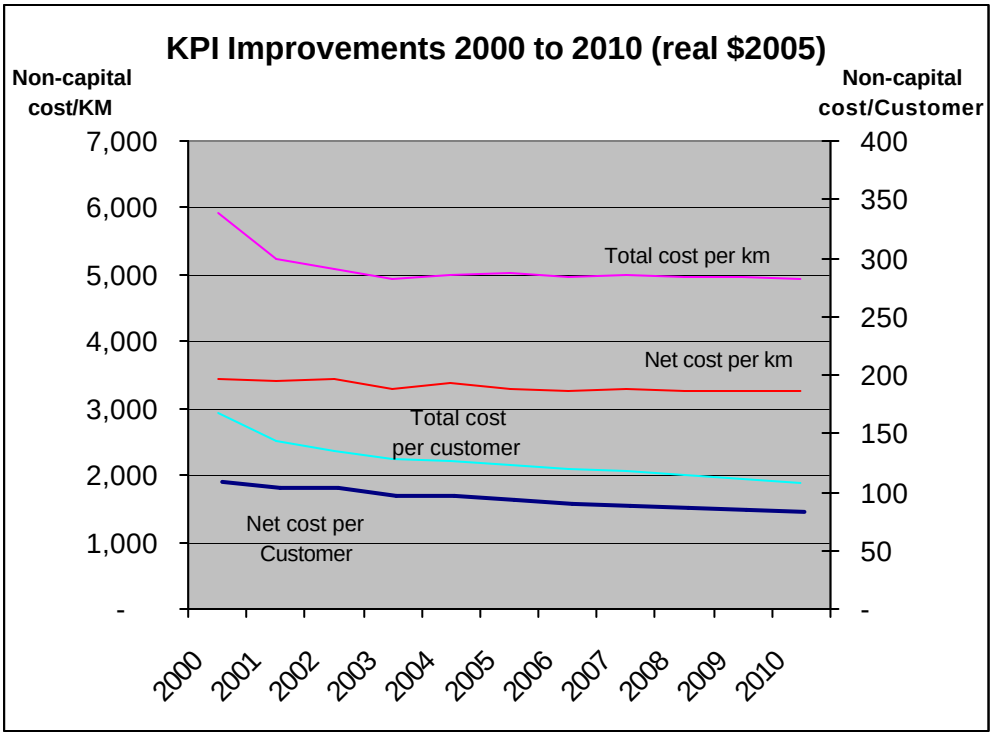
The graph below shows improvements in AGLGN KPI's over the period 2000 to 2010. Total cost comprises total non-capital costs, whereas net cost excludes those items excluded in Table 6.5 to make AGLGN comparable with other Australian gas distributors.

Table 6.7 AGLGN KPI's

Real 2005 $

	Net Cost /Customer Site	Total Cost /Customer Site	Net Cost /km Of Main	Total Cost /km Of Main
1999/2000	97	167	3,444	5,928
2000/1	93	144	3,398	5,244
2001/2	92	136	3,437	5,097
2002/3	85	128	3,284	4,928
2003/4	85	126	3,368	4,998
2004/5	81	124	3,301	5,022
2005/6	79	120	3,270	4,979
2006/7	77	117	3,283	4,984
2007/8	75	114	3,271	4,967
2008/9	73	111	3,263	4,954
2009/10	71	109	3,253	4,938

Graph 6.8 AGLGN KPI's



6.6. Allocation Between Labour and Non Labour Costs

Table 6.9 Operating Costs Broken Down By Nature Of Expenditure

Real $ million 2005

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Labour And Labour Related	0.7	0.7	0.7	0.7	0.7	0.7
Materials And Supply	0.0	0.0	0.0	0.0	0.0	0.0
Contractors Services	87.2	87.4	88.4	88.8	89.1	89.6
Other Costs	17.1	17.1	17.0	17.0	17.0	17.0
Government Levies	3.9	3.9	3.9	3.9	3.9	3.9
Unaccounted For Gas	9.1	9.1	9.3	9.3	9.4	9.5
Allowed Opex	118.0	118.2	119.3	119.7	120.2	120.7

Table 6.10 Operating Costs For Each Pipeline

- Break Down Between Labour And Non-Labour Costs

Real $ million 2005

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Trunk - Wilton - Newcastle						
Wages And Salaries	0.0	0.0	0.0	0.0	0.0	0.0
Other Costs	2.5	2.5	2.5	2.5	2.5	2.5
Total	2.5	2.5	2.5	2.5	2.5	2.5
Trunk - Wilton - Wollongong						
Wages And Salaries	0.0	0.0	0.0	0.0	0.0	0.0
Other Costs	0.4	0.4	0.4	0.4	0.4	0.4
Total	0.4	0.4	0.4	0.4	0.4	0.4
Local Network						
Wages And Salaries	0.7	0.7	0.7	0.7	0.7	0.7
Other Costs	114.4	114.6	115.7	116.1	116.6	117.1
Total	115.1	115.3	116.4	116.8	117.3	117.8
Total Allowed Opex	118.0	118.2	119.3	119.7	120.2	120.7

6.7. Fixed Versus Variable

Network costs do not vary with throughput. However, network costs increase as new customers are connected and the distribution network expands.

7. TOTAL REVENUE

7.1. Determination of Total Revenue

AGLGN has adopted the price path approach and the cost of service methodology to determine total revenue. This is consistent with the approach determined in the Final Decision 2000. The key steps are to establish a revenue stream for AGLGN over the Access Arrangement period and then to allocate revenue between (a) market segments and (b) pipelines. This process involved:

- establishing the cost of services for AGLGN over the Access Arrangement period;
- considering the revenue that should be raised from the Contract segment;
- considering the revenue that should be raised from the Tariff segment;
- comparing cost of services to Total Revenue; and
- considering the implications of the updated indicator analysis to establish the projected financial position of AGLGN.

The inclusion of an incomplete financial year in the Regulatory Period and the seasonal nature of distribution revenue created an anomaly that would otherwise have advantaged AGLGN. To avoid taking advantage of this revenue seasonality, AGLGN in determining the price path has assumed that:

- 50% of total cost forecast for the 2005 financial year will be incurred in the June half year; and
- 50% of total revenue forecast for the 2005 financial year will be received in the June half-year.

7.2. Assessment of Cost of Services

Under the cost of service model, the Total Revenue should cover the following:

- AGLGN's forecast of efficient operating costs, adjusted for efficiency improvement and allowing for growth;
- a rate of return of 7.85% (real, pre-tax) on the capital base;
- depreciation of the regulatory capital base; and
- a nominal return on net working capital.

The following table presents a break down of the total cost of service allowed for AGLGN:

Table 7.1 Break Down Of Total Cost Of Services And Revenue Allowed For AGLGN

Real $ million 2005

	2004/05[1]	2005/06	2006/07	2007/08	2008/09	2009/10
Return On Capital Base[2]	75.7	154.7	158.2	160.5	161.9	162.6
Depreciation	33.5	69.4	72.6	75.2	77.4	79.4
Return On Working Capital	1.6	3.5	3.6	3.8	4.0	4.2
Operating Costs	59.0	118.2	119.3	119.7	120.2	120.7
Total	169.8	345.8	353.7	359.2	363.5	366.9

Note:

1. 2005 represents 50% of total full year cash flows.
2. Return on capital base is calculated using the average capital base for each year.

Having determined the total costs of AGLGN's service and revenue requirements, these costs and revenues are then allocated between pipelines and services, and between users.

Section 8 below presents an outline of the cost allocation methodology.

7.3. Revenue Versus Cost of Services

The forecast revenue is compared below with the forecast cost of services:

Table 7.2 Comparison Of Revenue Path And Cost Of Services

Real $ million 2005

	2004/05[1]	2005/06	2006/07	2007/08	2008/09	2009/10	NPV
Total Revenue	168.2	343.6	351.1	358.5	366.0	373.6	1,540.5
Total cost of services	169.8	345.8	353.7	359.2	363.5	366.9	1,540.5

Note:

1. 2005 represents 50% of total full year cash flows.

7.4. Assessment of Contract Revenue Path

The amount of revenue to be recovered from the Contract segment is designed to recover the following costs:

- operating costs allocated to the Contract segment using the fully distributed cost (FDC) methodology (see Section 8);
- assets serving the Contract segment using the fully distributed cost (FDC) methodology (see Section 8).

Costs allocated to the Contract segment are $45.2m for 2005 in real 2005 dollars, representing an average price per GJ transported of $0.69. This is a 14.9% real decrease from the average price forecast in the Final Decision 2000 to be earned from the contract segment in 2004 and a 7.7% real decrease from the average price currently forecast to be earned from the contract segment in 2004.

There is very little change in the size or nature of the contract segment throughout the regulatory period and consequently very little change to the cost of serving the contract segment. In contrast the tariff market segment and the cost of serving the tariff market segment are increasing progressively throughout the period.

Therefore the amount of revenue to be recovered from the Contract segment is held constant throughout the period and all cost increases have been allocated to the tariff segment.

7.4.1. Total Contract Revenue

The contract revenue path is set as follows:

Table 7.3 Contract Revenue Paths And Average Contract Price Allowed For AGLGN

	2004/05[1]	**2005/06**	**2006/07**	**2007/08**	**2008/09**	**2009/10**
Total Contract Revenue (Real $ million 2005)	22.60	45.20	45.20	45.20	45.20	45.20
Total Contract Demand (PJ)	32.90	65.10	66.30	66.30	66.40	66.70
Real Average Price ($/GJ)	0.69	0.69	0.68	0.68	0.68	0.68
Real Price Change (%)	(7.7%)	0%	(1.4%)	0%	0%	0%

Note:
2005 represents 50% of total full year cash flows.

7.5. Tariff Revenue and Price Path

Reference Tariffs for the Tariff Service will be subject to a CPI-X per cent cap over the Access Arrangement period, with X set at 0.01.

Prices are determined in real 2005 dollars and indexed by the increase in the CPI and other factors as set out in part 3E of the AA.

For the year 2005, the average Tariff price is $8.88/GJ.

A comparison of price paths is shown in the following table:

Table 7.4 Tariff Price Path

	2004/05[1]	2005/06	2006/07	2007/08	2008/09	2009/10
Total Tariff Revenue (Real $ million 2005)	145.60	298.40	305.80	313.30	320.80	328.40
Total Tariff Demand (PJ)	16.40	33.60	34.40	35.30	36.10	37.00
Real Average Price ($/GJ)	8.88	8.88	8.88	8.88	8.88	8.88
Real Price Change (%)	0%	(0.01%)	(0.01%)	(0.01%)	(0.01%)	(0.01%)

Note:
2005 represents 50% of total full year cash flows.

8. COST ALLOCATION TO CONTRACT AND TARIFF SEGMENTS

The cost allocation approach is described below under two headings:

- Operating cost allocation (by asset and customer class)
- Capital cost allocation (by asset and customer class)

8.1. Operating Cost Allocation

Operating costs are first allocated to asset groups. Each asset group's costs are then allocated to customer classes.

Operating cost allocation to pipelines

Activity based costing (ABC) is one approach to implementing a fully distributed cost (FDC) methodology. AGLGN's ABC information for 2002/3 is used to allocate transmission-operating costs to the Wilton-Newcastle and Wilton-Wollongong transmission pipelines. Physical Asset Characteristics are used to allocate costs to the multiple Trunk pricing zones.

Operating cost allocation to customer classes

Marketing expenditure is separated from total operating costs and allocated specifically to customer classes. AGLGN's marketing expenditure is predominantly associated with the Tariff segment. Contract segment marketing expenditure will total $81,000 per year over the Access Arrangement period; therefore, this amount is allocated to the Contract segment for each year of the Access Arrangement, with the remainder of marketing expenditure allocated to the Tariff segment.

The allocation of UAG is also considered separately. Although an operating cost, UAG is not an activity, and hence, is not included in AGLGN's ABC analysis. Most UAG costs are associated with the Tariff segment, which predominantly uses low and medium pressure pipes.

UAG is allocated to the Contract and Tariff segments based on a percentage of their estimated throughput volume. The Contract segment is allocated 0.5% of its estimated throughput volume, and the tariff market is allocated the balance. Since UAG on the transmission pipelines is insignificant, all UAG is allocated to the distribution system.

On the basis of AGLGN's 2002/3 activity based costing information the Contract segment's share of operating costs (excluding UAG, marketing and contestability costs) is calculated. The Contract segment shares of UAG and marketing costs are then added.

AGLGN's total Contract operating costs for 2004/05 are calculated at $17.1 million as follows:

Table 8.1 Derivation Of Contract Operating Costs For 2004/05

Real 2004/05 $ Million

Contract Segment Operating Costs	$M
Activity Costs	15.7
UAG Allocated To Contract Market	1.3
Marketing Costs	0.1
Total	**17.1**

8.2. Capital Cost Allocation

As with operating costs, capital costs are first allocated to assets, and the capital costs of each asset are then split into the Contract and Tariff segments.

Capital cost allocation to pipelines

The allocation of capital costs to pipelines and assets is based on pipeline and asset information from the Regulatory Asset Register maintained in accordance with the Final Decision 2000.

Capital cost allocation to customer segments

For transmission facilities, capital costs are allocated to the Contract and Tariff segments based on diversified MDQ through the transmission pipelines.

For country Trunk Receiving Station (TRS) facilities, capital costs are allocated to the Contract and Tariff segments based on diversified MDQ through the country region.

The allocation of capital costs for metering assets is based on the regulatory value for those assets attributable to that particular segment. That is, Contract segment metering capital costs are based on the regulatory capital value for Contract meters.

Local Network capital costs are generally allocated to the Contract and Tariff segments based diversified on MDQ's for each Local Network for each segment (see Section 9.2.3.).

8.3. Summary

The cost allocation approach adopted is:

1. Costs are allocated between *pipelines and asset groups* as follows:
   - capital costs are based on the Regulatory Asset Register as maintained in accordance with the Final Decision 2000; and
   - operating costs are based on an activity based cost allocation.

2. A fully distributed costs methodology is used to allocate both operating and capital costs between Contract and Tariff segments.

The resulting allocation to the contract market segment is:

Table 8.2 Contract Segment Costs Allocation For The Year 2004/05

Real 2004/05 $ Million

	Total Allocation
Operating Costs	
- Wilton-Newcastle	1.71
- Wilton-Wollongong	0.09
- Local Network/Meters	15.32
- Total	17.12
Capital Costs	
- Wilton-Newcastle	8.16
- Wilton-Wollongong	0.21
- Local Network/Meters	19.71
- Total	28.08
Contract Segment Costs	**45.20**

The overall cost allocation outcomes are:

Table 8.3 2004/05 Regulatory Asset Base

$ million (nominal)

	Total	Contract	Tariff
Trunk: Wilton-Newcastle	127.5	87.5	40.0
Trunk: Wilton-Wollongong	11.4	2.4	9.0
Local network/meters	1,828.4	181.5	1,646.9
- country POTS	5.8	2.5	3.3
- meters	133.9	7.7	126.2
- local network	1,646.4	171.3	1,475.1
- non system assets	42.3	0.0	42.3
Total	**1,967.3**	**271.4**	**1,695.9**

Table 8.4 Opex Allocation For 2004/05

Real 2004/05 $ Million

	Total	Contract	Tariff
Trunk: Wilton-Newcastle	2.52	1.71	0.81
Trunk: Wilton-Wollongong	0.44	0.09	0.35
Local Network	104.50	12.63	91.87
Meters	10.48	2.69	7.79
Total	**117.94**	**17.12**	**100.82**

Table 8.5 Capital Cost Allocation For 2004/05

Real 2004/05 $ Million

	Total	Contract	Tariff
Trunk: Wilton-Newcastle	11.85	8.16	3.69
Trunk: Wilton-Wollongong	1.01	0.21	0.80
Local Network	186.12	18.25	167.87
Meters	19.39	1.46	17.93
Total	**218.37**	**28.08**	**190.29**

9. REVENUE ALLOCATION AND PRICING STRUCTURES

9.1. Overview and Comparison with Previous Regulatory Period

The revenue allocation and pricing structures are very similar to those used during the previous Regulatory Period 1999/2000 to 2003/04.

The only major difference is the use of a fully distributed costing methodology to allocate capital costs between market segments. In the previous period, as specified in the Final Decision 2000, local network assets serving the contract market were valued at DORC and the asset write down was applied to the tariff market.

9.2. Contract Segment Revenue Allocation and Pricing

9.2.1. Introduction and Summary

This section details the allocation of revenue within the Contract market segment and the derivation of transportation unit charges.

The transportation charges are determined from the Contract revenue allocation for the following assets groups:

Table 9.1 Contract Market Asset Groups

Asset Group	Description
Wilton- North Trunk (Wilton – Newcastle)	The Trunk main between Wilton and Newcastle which supplies Sydney, the Central Coast and Newcastle.
Wilton-South Trunk (Wilton – Wollongong)	The Trunk main between Wilton and Wollongong which supplies Wollongong
Country Trunk Receiving Stations (TRSs)	Country TRSs or Packaged Offtake Stations (POTS) Country TRSs are part of the total Country Local Network
Meter Set and Meter Reading Assets	Includes meters, meter set installations and on-site data and communication equipment devices in the Sydney, Newcastle, Wollongong and country regions.
Sydney Local Network	Includes primary, secondary and MP/LP mains, valves, TRS/PRS/SRSs and customer services in the Sydney Region.
Newcastle Local Network	Includes Secondary and MP/LP mains, TRS/SRSs, and customer services in the Central Coast and Newcastle regions.
Wollongong Local Network	Includes Primary, Secondary and MP/LP mains, PRS/SRSs and customer services in the Wollongong region.
Country Local Network (Mains)	Includes Secondary and MP/LP mains, SRSs and customer services in regional NSW (excluding Sydney, Newcastle and Wollongong).

The cost allocation for Year 2004/05 as described in Section 8 is used as the basis for the derivation of Contract transportation unit charges for the Wilton-Newcastle trunk, Wilton-Wollongong trunk, local network and meters. For subsequent years, the Contract revenue allocations are allocated on a pro-rata basis to each of the Contract segment asset groups based on the 2004/05 allocation relativities.

Table 9.2 summarises the cost allocation to contract segment asset groups for 2004/05

TABLE 9.2: AGLGN CONTRACT MARKET COST ALLOCATION 2004/2005

Contract Market Costs ($M)	Capital Related Costs	Operating Costs	Total Costs
Trunk Wilton/Newcastle	8.16	1.706	9.87
Trunk Wilton/Wollongong	0.21	0.093	0.31
Metering	1.45	2.695	4.14
Local Network (including Country POTS)	18.25	12.639	30.89
Total Costs	**28.08**	**17.13**	**45.21**
Total 2004/2005 Contract Costs			**45.21**

(a)

Contract Market Costs ($M)	Capital Related Costs	Operating Costs	Total Costs
Trunk Wilton/Newcastle	8.16	1.71	9.87
Trunk Wilton/Wollongong	0.21	0.09	0.31
Country TRS	0.15	0.02	0.17
Metering	1.45	2.69	4.14
Local Network	18.09	12.62	30.71
Total Costs	**28.08**	**17.13**	**45.21**
Total 2004/2005 Contract Costs			**45.21**

(b) (c) (d)

Contract Market Costs ($M)	Capital Related Costs	Operating Costs	Total Costs
Trunk Zone A	2.45	0.58	3.03
Trunk Zone B	1.77	0.35	2.12
Trunk Zone C	1.92	0.37	2.29
Trunk Zone D	2.02	0.40	2.42
Trunk Zone E	0.21	0.09	0.31
Country TRS	0.15	0.02	0.17
Meter Sets	1.24	2.14	3.38
Onsite Data & Comm Equipment	0.21	0.29	0.50
Meter Reading	0.00	0.27	0.27
Sydney Local Network	14.70	9.20	23.91
Newcastle Local Network	1.71	1.46	3.17
Wollongong Local Network	0.37	0.78	1.15
Country Local Network (Mains)	1.31	1.17	2.49
Total Costs	**28.08**	**17.13**	**45.21**
Total 2004/2005 Contract Costs			**45.21**

Customer MDQ

Trunk	$/GJ.MDQ
Zone A	13.48
Zone B	30.60
Zone C	34.13
Zone D	38.14
Zone E	80.50

Customer MDQ Block Structure

Country TRS	$/GJ.MDQc
Country	10.561

Type of Meter

Meter Sets	$/meter type
NSW	Various

No of Devices

Onsite Data & Comm. Equipment	$/device
Single device	1013
Additonal device	240

No of Devices

Meter Reading	$/device
Single device	543
Additonal device	129

Customer MDQ Block Structure

(e)

Local Network	$/GJ.MDQ MDQ Block 1
Sydney	
Zone 1	160.6
Zone 2	191.6
Zone 3	275.4
Zone 4	462.3
Zone 5	2,707.2
Newcastle	
Zone 1	73.0
Zone 2	312.7
Zone 3	698.7
Wollongong	
Zone 1	28.15
Zone 2	123.68
Zone 3	1,853.63

Customer MDQ Block Structure & Distance

Country Local Network (Mains)	$/GJ.MDQc. Km
Country	39.51

Notes:

(a) Refer to section 7.1.2 for allocation of costs to trunk zones

(b) Local network capital related cost allocated to regions by asset relativities of local networks derived from a fully -distributed methodology.
Operating costs were allocated overall (contract/tariff) local network operating cost relativities.

(c) Capital related costs of meter components allocated by their asset values.
Operating costs for meter sets were allocated to meter sets and meter devices and meter reading by deemed activity costs.

(d) Local Network total cost allocated to zones by share of assets relativities between zones, refer Section 7.1.3

All charges in this Table are shown exclusive of GST. Consequently, they are slightly different to those in the Access Arrangement.

9.2.2. Derivation of Contract Segment Trunk Charges

The Wilton-Newcastle Trunk is split into four price zones: zones A and B cover the Sydney region, zones C and D cover the Central Coast and Newcastle regions. The Wilton-Wollongong Trunk consists of one price zone, that is, price zone E.

The Contract revenues for Wilton-Newcastle and Wilton-Wollongong Trunk are based on the Regulatory Capital Base as maintained in accordance with the Final Decision 2000 and activity based costing undertaken for 2002/3.

A similar approach is used to allocate the cost of the Wilton-Newcastle Trunk to Zones A to D.

The total Trunk revenue for each zone is allocated using the physical characteristics, eg. number of valves and length and diameter of main for each zone.

The Contract revenue of the Trunk is derived from a fully distributed allocation of the total Trunk revenue between the Contract and Tariff markets. The allocation is based on diversified MDQs of the Contract and Tariff markets for winter 2003.

The Contract revenue for the Trunk in each zone is calculated by:

$$\text{Contract Trunk Revenue}_{\text{Zone i}} = \text{Trunk Revenue}_{\text{Zone i}} \times \frac{\sum MDQ_{Con\,Zone\,i}}{MDQ_{T\,Zone\,i}}$$

where:

$MDQ_{Con\ Zone\ i}$ = Diversified peak day MDQ for the contract market flowing through (and withdrawn from) zone i (GJ/d)

$MDQ_{T\ Zone\ i}$ = Total diversified peak day MDQ for the contract and tariff market flowing through (and withdrawn from) zone i. (GJ/d)

The Trunk Unit Charge for each zone is then calculated by dividing the contract trunk revenue from each zone by the forecast MDQ reservations of contract customers utilising that zone.

$$\text{Trunk Unit Charge}_{\text{Zone i}}\ (\$/GJ\ MDQ) = \frac{\text{Contract Trunk Revenue}_{\text{Zone i}}}{\sum MDQ_{R\,Zone\,i}}$$

where:

$MDQ_{R\ Zone\ i}$ = MDQ reservation for contract customers utilising trunk zone i (GJ/day).

Charges are determined on a cumulative basis by summing the charge for each Zone. For example, if the customer's receipt point is in Zone A and their gas passes through zone B and exits in zone C, the Trunk Unit Charge would be the sum of Trunk Unit Charges for zones A, B and C. If the customer's Receipt Point is in Zone A and there is no utilisation of any other Trunk Zone, the customer will pay the Trunk Unit Charge for Zone A only.

9.2.3. Derivation of Contract Local Network Transportation Charges for Sydney, Newcastle and Wollongong Regions

Local Network Capacity Reservation Transportation Charges for contract customers in Sydney, Newcastle and Wollongong are based on MDQ reservations and the location of their Delivery Point.

The capital related Contract cost for the Local Network is allocated to the regions of Sydney Newcastle and Wollongong in proportion to the Local Network Regulatory Capital Base allocated to the Contract segment using a fully distributed cost methodology. This methodology uses the 2003 peak day MDQs to allocate the Regulatory Capital Base to the Contract and Tariff segments.

The Wollongong contract market has a characteristic of high MDQ demand which is supplied using a very small proportion of the network. Hence, the FDC methodology would result in an erroneously high proportion of the capital cost being allocated to the contract market. Therefore a "share of assets" methodology (similar to that described for the contract market postcode allocation) using the engineering flow model of the optimised Wollongong network is used to determine a more cost reflective allocation of the local network between the contract and tariff market.

The operating costs are allocated to the regions based on the activity based costing information. The regional Contract revenues are then used to calculate the Local Network transportation charges.

Each postcode within Sydney is assigned to one of five price Zones. Each postcode within Newcastle and Wollongong is assigned to one of three price Zones. The postcodes are grouped into zones based on an evaluation of the following cost reflecting factors:

(i) the relative location of the postcode to the Trunk main;
(ii) relative distance of the postcode from the Primary mains;
(iii) the utilisation of assets by both Contract and Tariff customers; and
(iv) the construction costs of mains in the geographical location.

The assessment ratings for each postcode are shown in Attachment 3.

The share of asset relativities between the price Zones is used to distribute the regional Local Network Contract revenue to the price Zones. The share of assets (by flow) to each postcode is calculated and then aggregated to the zone each postcode is assigned to, as shown below:

$$\text{Revenue Local Network Zone i (\$)} = \text{Revenue}_{\text{Local Network}} \times \frac{\sum SAV_{PC\,Zone\,i}}{CSA_{LN}}$$

where

$SAV_{PC\ Zone\ I}$ = Share of assets to postcodes in zone i ($)
CSA_{LN} = Optimised Contract Stand Alone Replacement Cost of Local Network ($)

AGLGN has applied a FDC allocation of contract market asset value down to regional level (ie Sydney, Newcastle and Wollongong). In allocating capital cost between pricing zones within a region, CSA values on the basis of an existing engineering flow model by postcode have been applied.

To reflect economies of scale of individual customers within a local network zone, customer MDQ capacity reservations are broken into five blocks. Customers pay a base unit charge (for the first block of MDQ reservation) and reduced unit charges for subsequent blocks of MDQ reservations.

Economy of scale factors (fi) reflect the fact that incremental costs of laying mains decreases with increasing pipe capacity (ie while pipe capacity increases by the square of the diameter, the pipe costs do not increase in the same proportion). Hence, larger customers (normally served from larger pipes) should receive declining unit costs with increasing capacity reservation.

The economy of scale factors have not been changed from the block structure used for the 2000 Access Arrangement. The MDQ block structure is shown in Table 9.3.

Table 9.3 MDQ Block Structure

Block	Booked MDQ	Economy Of Scale Factor (f)
1	First 200 GJ	1.0
2	Next 400 GJ	0.6
3	Next 1000 GJ	0.4
4	Next 2000 GJ	0.3
5	All additional GJs	0.2

A Scaled Demand F_T, is therefore calculated for each customer as follows:

$$F_T = f_1 \times MDQ_{Block1} + f_2 \times MDQ_{Block2} + f_3 \times MDQ_{Block3} + f_4 \times MDQ_{Block4} + f_5 \times MDQ_{Block5}$$

where:

f_1, f_2, f_3, f_4, f_5 = economies of scale factors for MDQ blocks 1,2,3,4 and 5.

The base Local Network unit charge (MDQ block 1) for each Zone is then calculated as follows:

$$\text{Base Local Network Unit Charge Zone i (\$/GJ MDQ)} = \frac{\text{Revenue Local Network Zone i}}{\sum F_{T_{Zone\ i}}}$$

where:

$FT_{Zone\ i}$ = Scaled Demand for contract customers in Zone i
i = 1,…,5 (for Sydney), 1,..,3 (for Newcastle), 1,…,3 (for Wollongong)

Subsequent block unit charges for a particular Zone are calculated by multiplying the base Local Network unit charge of that Zone by the appropriate economies of scale factors f_i.

Table 9.4 shows the Local Network revenue allocation to each Zone.

Table 9.4 Contract Revenue Allocation to Local Network Zones

Sydney

	1	2	3	4	5	Total
% Share of Assets	9.0%	18.6%	32.4%	28.2%	11.9%	100.0%
Local Network Revenue Allocation ($ '000)	2,142	4,445	7,734	6,730	2,855	23,907

Newcastle

	1	2	3	Total
% Share of Assets	25.5%	51.1%	23.4%	100.0%
Local Network Revenue Allocation ($ '000)	807	1,621	742	3,170

Wollongong

	1	2	3	Total
% Share of Assets	10.6%	29.3%	60.1%	100.0%
Local Network Revenue Allocation ($'000)	122	337	692	1,151

Unit charges are calculated from the revenue allocations and adjusted to account for the capping of the Reference Tariff (refer Section 9.2.5) and for the rolling in of Decrement customers (refer Section 9.2.6).

9.2.4. Derivation of Contract Transportation Charges for Country NSW

Local Network Capacity Reservation charges for country customers comprises a Pressure Reduction Charge relating to the country TRSs (and POTS), and a Local Network mains charge.

Pressure Reduction Charges Relating to Country TRSs

The Contract revenue for the country TRS/POTS is included as part of the Local Network revenue and the country POTS revenue is allocated to the contract and tariff segments based upon the Regulatory Capital Base as maintained in accordance with the Final Decision 2000 and an activity based cost allocation.

Customer MDQ reservations are split into 5 blocks where each block is given a scaled transportation unit cost. The price structure is similar to that described in Section 9.2.3.

The Pressure Reduction Unit Charge ($/GJ MDQ) for Country NSW is calculated as:

Pressure Reduction Unit Charge

$$= \frac{\text{Revenue}_{\text{TRS\_C}}}{\sum_i (f_i \times MDQ_{i,Block1} + f_2 \times MDQ_{i,Block2} + f_3 \times MDQ_{i,Block3} + f_4 \times MDQ_{i,Block4} + f_5 \times MDQ_{i,Block5})}$$

$Revenue_{TRS\_C}$	=	Revenue allocation to the country TRSs comprising capital related and Operating Costs components ($).
MDQ_i	=	The MDQ reservation for contract customer i in the country region (GJ).
f_1, f_2, f_3, f_4, f_5	=	economies of scale factors for MDQ blocks 1,.., 5, as shown in Table 9.3.

Local Network (Mains) Charge for Country Customers

Local Network mains charges for contract customers in the Country region are based on their direct distance from the TRS which supplies the mains distribution network and their booked MDQ reservation. The five MDQ blocks applied in the Pressure Reduction Charge also apply to the Local Network Charge.

The Local Network Unit Charge ($/GJ.MDQ/km) is calculated as follows:

Local Network Unit Charge =

$$\frac{\text{Revenue}_{\text{LN\_country}}}{\sum_i (Dist_i \times (f_1 \times MDQ_{i,block1} + f_2 \times MDQ_{i,block2} + f_3 \times MDQ_{i,block3} + f_4 \times MDQ_{i,block4} + f_5 \times MDQ_{i,block5}))}$$

where

$Revenue_{LN\_country}$	=	Revenue allocated to the Local Network of the Country Region comprising capital related and Operating Costs components ($)
$Dist_i$	=	Direct distance (km) from the TRS supplying the local network, rounded to the nearest 0.5 km
f_1, f_2, f_3, f_4, f_5	=	economies of scale factors for MDQ blocks 1,…,5 as shown in Table 9.3

9.2.5. Capping of the Reference Tariff

Capped customers are customers whose prices would otherwise exceed the capped rates in Table 9.5. The shortfall between the expected revenue from these customers and the revenue that would be achieved if they were to pay the Reference Tariff that would have resulted without rolling in is borne by the remaining customers.

Capping is applied each year. For customers capped according to Table 9.5 below, the equivalent MDQ charge is calculated by multiplying the blocked capped rates by the annual load and dividing by booked MDQ. Adjustment is made for the metering charge as the capped rate is inclusive of the metering charge

Table 9.5 Capped Rates, Pre-GST

Blocks	$/GJ Equivalent Real 2004/2005 dollars
First 20 TJ p.a.	4.26
Next 30 TJ p.a.	3.47
All Additional	2.94

9.2.6. Roll in of Decrement and Capped Customers

The final calculation of Reference Tariffs involves reallocating revenue not recovered from Decrement and Capped customers. Decrement customers are customers whose transportation charge (not including metering components) is discounted as provided under Section 8.43 of the Code and approved by the Tribunal.

Decrement and capped customers first cover their Meter and related charges, then their Trunk Charge and part of their Local Network charge. The shortfalls are calculated on a regional basis so that, for example, a shortfall in the Sydney Local Network will not affect Newcastle's Local Network price.

9.2.7. Derivation of Contract Throughput Charges

Contract revenue is allocated to Users on the assumption that all users will choose the Capacity Reservation Service, because this represents the most cost-effective service where a user manages their MDQ. The Throughput Service is included for users that have uncertain or variable circumstances and would prefer the predictability of throughput based charging and the MDQ management service implied by it.

It is assumed that revenues attracted for the small proportion of the market that would choose this service will offset the revenues that would have been earned under one of the capacity based services. Any potential for earning higher than expected revenue under this service is fully offset by the degree of risk associated with this service to AGLGN when compared with the Capacity Reservation Service.

The price for the Throughput Service is derived assuming a 20% load factor and by applying a 20% premium to the charge for MDQ that would apply under a capacity reservation service.

9.2.8. Derivation of Contract Metering Charges

There are three metering related charges; that is, a Provision of Basic Metering Equipment Charge which is part of the Transportation Service, and On-site Data And Communications Equipment Charge and a Meter Reading Charge which are part of a separate Meter Data Service.

The Contract revenue allocation to contract market meters is derived from the capital related and operating costs of these components.

Provision of Basic Metering Equipment Charge

$$\text{Provision of Basic Meter Equipment Charge for meter type j (\$/meter type)} = \text{Revenue}_{\text{Meter}} \times \frac{\text{Meter Type}_{jH}}{\sum_i (n_i \times \text{Meter Type}_{iH})}$$

where

$\text{Revenue}_{\text{Meter}}$	=	Revenue allocation to the Meter Sets comprising capital related and Operating Costs components ($).
Meter Type_{jH}	=	Provision of Basic Metering Equipment Charge of Type j (or equivalent type based on size and function for new types) under Final Decision 2000.
Meter Type_{iH}	=	Provision of Basic Metering Equipment Charge for each Type (or equivalent type based on size and function for new types) under Final Decision 2000
n_j	=	number of meters of type j
n_i	=	number of meters of type I (for summation of all types)

On-site Data and Communication Equipment Charge

The On-Site Data and Communication Device Charge is calculated by dividing the revenue allocated to these devices by the number of data and communication devices installed in the Contract segment, allowing for a second device at the same Delivery Station to be charged at an incremental cost.

$$\text{On-site Data and Comm. Equip. Charge for a single device (\$)} = \frac{\text{Revenue}_{devices}}{n_S + c\, n_D}$$

where

$\text{Revenue}_{\text{devices}}$	=	Revenue allocation to the data and communication devices comprising capital related and Operating Costs components ($).
n_s	=	number of customers with single devices
n_D	=	number of customers with two devices at the same Delivery Station.
c	=	incremental factor for customers with two devices
	=	1.237

Meter Reading Charge

The Contract Meter Reading Charge is calculated by dividing the revenue allocated to meter reading by the number of data and communication devices installed in the Contract segment, allowing for a second device at the same Delivery Station to be charged at an incremental cost.

$$\text{Meter Reading Charge for a single device (\$)} = \frac{\text{Revenue}_{\text{Meter Reading}}}{n_S + c\, n_D}$$

where

$\text{Revenue}_{\text{Meter reading}}$	=	Revenue allocation to the Meter Reading comprising operating cost ($).
n_s	=	number of customers with single devices

n_D	=	number of customers with two devices at the same Delivery Station.
c	=	incremental factor for customers with two devices
	=	1.237

The Meter Reading Charge for customers with two devices at the same Delivery Station is calculated by multiplying the Meter Reading unit charge for a single device by the incremental factor c. The Meter Reading Charge for the second device is expressed as an incremental cost to the Meter Reading Charge of a single device.

Gas Swap Transaction Charge

The Gas Swap Service is a new service, offered as part of the 2004 Access Arrangement in response to retail and market calls for flexibility in utilising different receipt points and different sources of gas for a short term and at short notice. Charges for the service are the estimated incremental operating costs to provide the service. The incremental operating costs have not been included in the development of other tariffs.

9.3. Tariff Segment Revenue Allocation and Pricing

9.3.1. Introduction

Tariff prices have the following components:

- A Tariff Service Charge for use of the Trunk (a flat $/GJ) applicable to customers in Sydney, Newcastle and Wollongong regions only.
- Charges for the Local Network Tariff Service consisting of:
  - A Tariff Charge block structure
  - A Provision of Basic Metering Equipment Charge
  - A fixed charge
- Charges for the Meter Data Services:
  - A Meter Reading Charge

The structure of prices is retained from the Final Decision 2000 which provides a price for customers which is related to their usage level and does not require a knowledge of either the customer's appliances or their usage profile.

Specific issues in the gas market are taken into consideration in developing the block structure. These are:

1. Maintenance of competitiveness with substitute fuels;
2. Minimising price movements of individual market segments; and
3. Maintaining appropriate relativities between Tariff and Contract prices

The source of data on which the calculation of the tariffs is based is the 2002/03 billing information. This supplies the number of customers in various segments (ie monthly or quarterly meter reading and number below $6m^3/hr$) as well as the percentage load in each block and the load above $6m^3/hr$. These values are then increased to account for the forecast increase in customer numbers and demand so that in each year the relativities between the various segments and blocks are maintained.

9.3.2. Derivation of Local Network Tariff Charges

Local Network Tariff Charges are derived using an iterative process. This involves reviewing the Local Network block structure to maintain competitiveness with substitute fuels. This approach will minimise price movements to individual market segments, achieve appropriate relativity between Tariff and Contract prices, while at the same time achieve an appropriate and equitable revenue allocation to the Local Network for the Tariff segment.

The Local Network Tariff Charges derived for 2004/05 are then increased or decreased by the same proportion to achieve the approved revenue in subsequent years using forecast volumes.

9.3.3. Derivation of Tariff Trunk Charges

Tariff customers utilising the Trunk system pay a single Trunk charge. This charge applies to their throughput. The Trunk Unit Charge for the Tariff segment is calculated by dividing the allocated Trunk revenues for each year by the throughput of the Tariff market served by the trunks for that year.

9.3.4. Derivation of Tariff Charges for Metering

The total revenue for Tariff metering is allocated to the meter sets and meter reading by the capital related and operating costs of these components.

Provision of Basic Metering Equipment Charge

The revenue for meter sets is further allocated to two groups of meters - below $6m^3$/hr capacity and above $6m^3$/hr on the capital related and operating costs associated with each group of meters. A charge for meters below $6m^3$/hr is then determined by dividing the revenue allocation to these meters by the number of installed meters in this class. A charge for meters above $6m^3$/hr capacity is determined by dividing the revenue allocation to this group by annual throughput of these meters.

Meter Reading Charge

A charge for monthly and quarterly reads is determined by allocating the meter reading revenue in accordance with relative cost and numbers of monthly and quarterly reads of the Tariff customers.

10. SYSTEM CAPACITY AND VOLUME ASSUMPTIONS

10.1. System Description

10.1.1. Introduction

This section provides details of the AGLGN gas distribution system in NSW and the volume growth assumptions applicable to the Access Arrangement period.

10.1.2. Description of AGLGN Gas Distribution Systems

AGLGN operates approximately 23,000 kilometres of gas distribution systems in NSW with over 900,000 customer connections to these systems. The systems provide access to natural gas in Sydney, Newcastle, Wollongong and regional country centres throughout NSW.

AGLGN has networks in 75 Local Government Areas throughout NSW. The extent of these networks is portrayed on a series of maps (Attachment 1).

Natural gas is delivered to AGLGN's systems through the Moomba-Sydney Pipeline (owned by the Australian Pipeline Trust (APT),) or laterals from this Pipeline, from the Eastern Gas Pipeline (EGP), owned by Duke Energy, and from Coal Seam Methane supplied by the Sydney Gas Company.

The network systems in Sydney, Newcastle and Wollongong are supplied by the AGLGN Trunk Mains which interconnect with the Moomba-Sydney Pipeline at Wilton, and also through the EGP at Horsley Park, and Wollongong.

The main elements of the network system within NSW are described below.

10.1.3. Trunk Main

A Trunk main supplies AGLGN's gas distribution systems in Sydney, Newcastle and Wollongong. The Sydney to Newcastle trunk main has two receipt points or Custody Transfer Stations (CTS), that is, at Wilton (south of Sydney), and at Horsley Park (in western Sydney). The Wilton CTS is supplied by the Moomba-Sydney Pipeline. The minimum contracted gas pressure for AGLGN at Wilton is 3800 kPa. The Horsley Park CTS is supplied from the EGP. The minimum network operating pressure requirement at the Horsley Park Receipt Point is 3600 kPa. The trunk main to Wollongong is supplied from the Wilton CTS.

10.1.4. High Pressure Systems

There are two primary systems in the Sydney region, that is, the Sydney Metropolitan Primary mains and the Western Sydney Primary mains. The Sydney Metropolitan Primary main is fed from a Trunk Receiving Station (TRS) on the trunk main at Horsley Park, while the Western Sydney Primary main is supplied from a TRS at Eastern Creek. The Maximum Allowable Operating Pressure (MAOP) of both primary networks is 3400 kPa, with a minimum allowable operating pressure of 1750 kPa.

The Sydney Metropolitan Primary main supplies gas to the Sydney secondary networks via a series of Primary Reduction Stations (PRSs). The Western Sydney Primary main feeds a Primary Reduction Station that supplies the Sydney West and Blue Mountains secondary networks. The MAOP of the Secondary networks is 1050 kPa, with a minimum allowable pressure of 525 kPa.

The Wollongong Primary main is supplied from the Wilton to Wollongong trunk main via a TRS at Mount Keira. There is a receipt point from the EGP, that is, the Port Kembla CTS, which also feeds the Wollongong Primary main. The minimum network operating pressure requirement for this receipt point is 2600 kPa. The Wollongong Secondary network is supplied from the Primary network via a PRS.

The Newcastle Secondary networks are supplied directly from the Trunk main via TRSs.

The Secondary networks (or in some cases, the medium pressure networks) in country NSW are supplied directly from Moomba to Wilton transmission pipeline via local TRSs.

The Secondary networks supply gas to the medium and low-pressure distribution systems, as well as directly to many Contract and Tariff customers.

10.1.5. Medium and Low Pressure Distribution Systems

The medium and low-pressure (MP and LP) distribution networks are fed from the Secondary networks via SRSs (Secondary Regulator Sets). MP networks have an MAOP ranging from 210 kPa to 400 kPa.

LP networks have an MAOP of 7 kPa.

Nearly all Tariff customers are supplied from the MP and LP networks.

10.1.6. Meters and Services

Each Contract and Tariff customer is supplied by a service and meter set.

All but a small number of small Contract customer sites are provided with on-site daily data recording and communication equipment.

10.2. Data

10.2.1. Network Assets

The distribution assets comprising the NSW network as at June 30, 2003 are given in the tables below.

Table 10.1 Network Assets By Regions

Length (Km)/Number

	Sydney	Newcastle And Central Coast	Wollongong	Country	Total
Trunk Mains	78	161	33 [1]	0	272
Primary Mains	109	0	7	0	116
Secondary Mains	913	241	69	186	1,409
MP And LP Mains	14,805	2,419	1,211	2,876	21,311
Secondary Services	1,564	79	107	75	1,825
MP And LP Services	626,849	89,483	49,701	66,307	832,340
Trunk ALB Valves	10	3	2	0	15
Primary ALB Valves	13	0	0	0	13
TRSS	11	4	8	27	50
PRSS	10	0	1	1	12
SRSS	387	53	73	68	581
Contract Meters	422	71	42	64	599
I&C Tariff Meters	15,787	1,904	819	1,609	20,119
Residential Meters	743,705	91,574	51,781	65,500	952,560

Note:
1. Wollongong trunk main from Wilton – Gipson Road, Figtree

10.2.2. System Load Profiles

Gas issues in TJ for the period July 2002 – June 2003 are detailed in the table below:

Table 10.2 Gas Issues 2002-2003

TJ

	Sydney	Newcastle	Wollongong	Country	Total
July 02	6,702	2,072	807	1,123	**10,704**
August 02	6,169	1,747	739	1,022	**9,677**
September 02	5,259	1,853	714	803	**8,629**
October 02	4,894	1,852	665	652	**8,062**
November 02	4,600	1,726	659	509	**7,494**
December 02	4,276	1,699	651	459	**7,085**
January 03	4,192	1,717	655	445	**7,009**
February 03	4,166	1,540	616	471	**6,793**
March 03	4,846	1,771	661	558	**7,835**
April 03	4,762	1,611	647	594	**7,613**
May 03	5,700	1,868	707	827	**9,102**
June 03	5,827	1,611	736	969	**9,143**
Total	**61,393**	**21,066**	**8,256**	**8,431**	**99,146**

The average and peak flow rates for the Contract and Tariff segments over the above mentioned period are:

Table 10.3 Average And Peak Flow Rates

	Sydney	Newcastle	Wollongong	Country
Average Daily Flow Rates (TJ)	168.2	57.7	22.6	23.1
Peak Day Flow Rates (TJ)	240.1	74.9	27.6	47.3

10.2.3. Customer Information

Actual 2003 customer numbers and annual loads for the Sydney, Newcastle, Wollongong and Country regions are given in the tables below. The Contract customer numbers include all customers with annual usage greater than 10TJ PA.

Table 10.4 30 June, 2003 Customer Sites By Region

	Contract	Tariff
Sydney	335	692,748
Newcastle	56	86,759
Wollongong	19	48,507
Country	55	64,440
Total	465	892,454

Table 10.5 2002-2003 Annual Usage By Region

TJ

	Contract	Tariff
Sydney	36,129	23,378
Newcastle	18,295	2,770
Wollongong	6,928	1,221
Country	5,012	3,395
Total	66,364	30,764

10.3. Description of System Capabilities

10.3.1. General

A series of Trunk Receiving Stations (TRSs) and Packaged Off Take Stations (POTS) owned by AGLGN (refer to Attachment 2), supply the various local High-Pressure (HP) distribution networks off the Moomba-Sydney Pipeline. The Medium Pressure (MP) and Low Pressure (LP) parts of the Network are served via district regulators from the HP system or in some cases, directly from the POTS.

Those sections of the Network which are in Sydney, Newcastle and Wollongong are supplied by the AGLGN Trunk Main which interconnects with the Moomba-Sydney Pipeline at Wilton, and with the Eastern Gas Pipeline at Horsley Park and Port Kembla**.**

Those sections of the Network which are in country NSW are supplied directly or by laterals from the Moomba-Sydney Pipeline owned by the Australian Pipeline Trust (APT).

10.3.2. Extent of AGLGN Networks

This Access Arrangement Information applies to AGLGN networks situated in the Local Government Areas (LGAs) listed in the tables in Attachment 3. This Access Arrangement covers the LGAs listed and also other LGAs in which AGLGN may develop the network in the future.

11. KEY PERFORMANCE INDICATORS

Separate KPIs are relevant for the Transmission and Distribution segments of the AGLGN distribution networks. These are calculated as set out below:

Table 11.1 Transmission Pipeline KPIs

Operating cost per km – real 2005 $

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Wilton - Newcastle Trunk	10,473	10,473	10,473	10,473	10,473	10,473
Wilton - Wollongong Trunk	12,195	12,195	12,195	12,195	12,195	12,195

Table 11.2 Distribution System KPIs

Operating cost per metre and cost per customer site – real 2005 $

	2004/05	2005/6	2006/7	2007/8	2008/09	2009/10
Operating Cost /Metre	3.33	3.31	3.32	3.31	3.30	3.30
Operating Cost /Customer Site	121	117	114	111	109	106

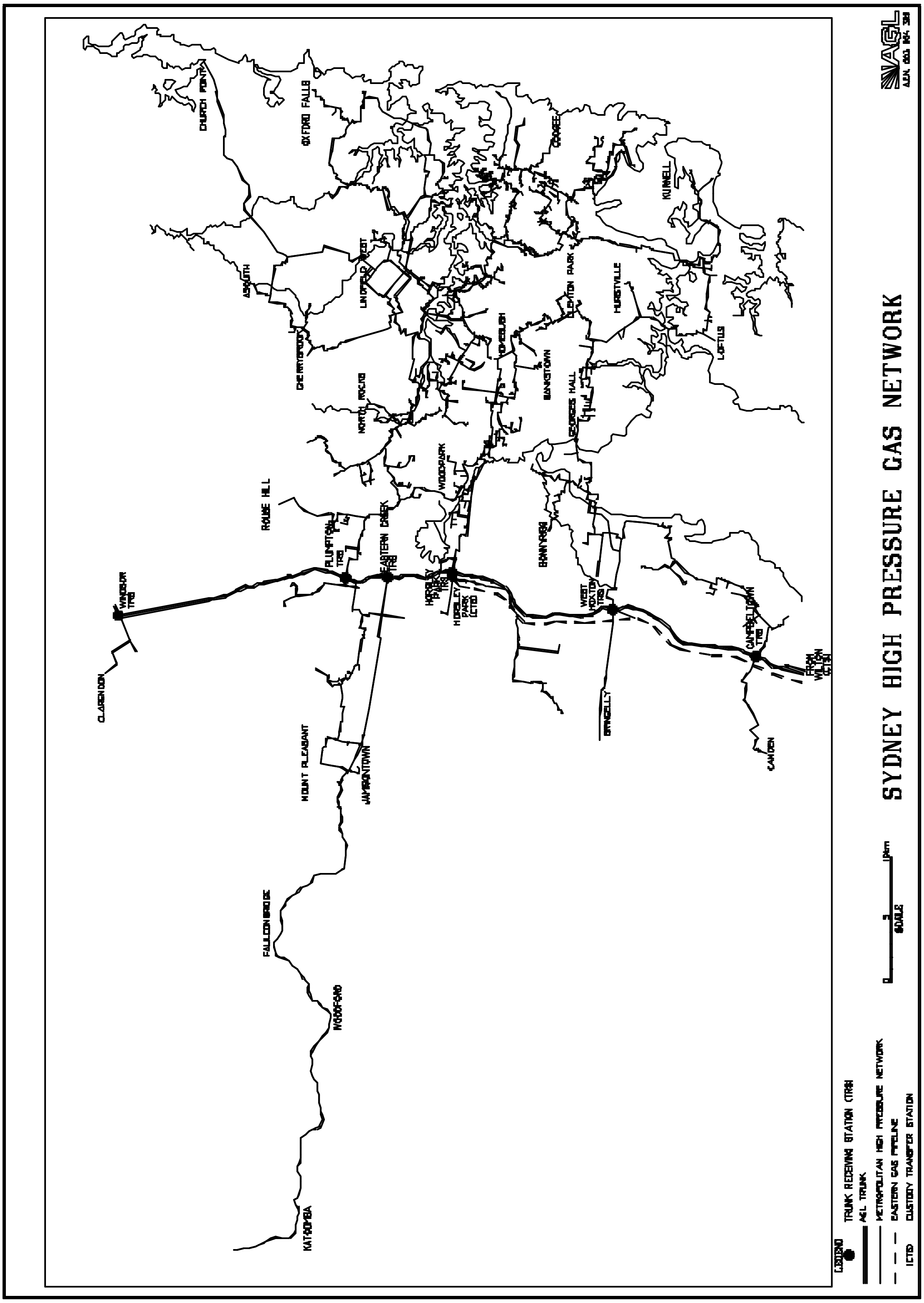
Operating cost per km and per metre are calculated by dividing the "Operating & Maintenance" and "Administrative and Overhead" costs for each pipeline cost by the relevant length of main.

Operating cost per customer site for the Distribution System is based on the total operating cost allocated to the Distributed System.

ATTACHMENTS

ATTACHMENT 1

MAPS OF THE SYSTEM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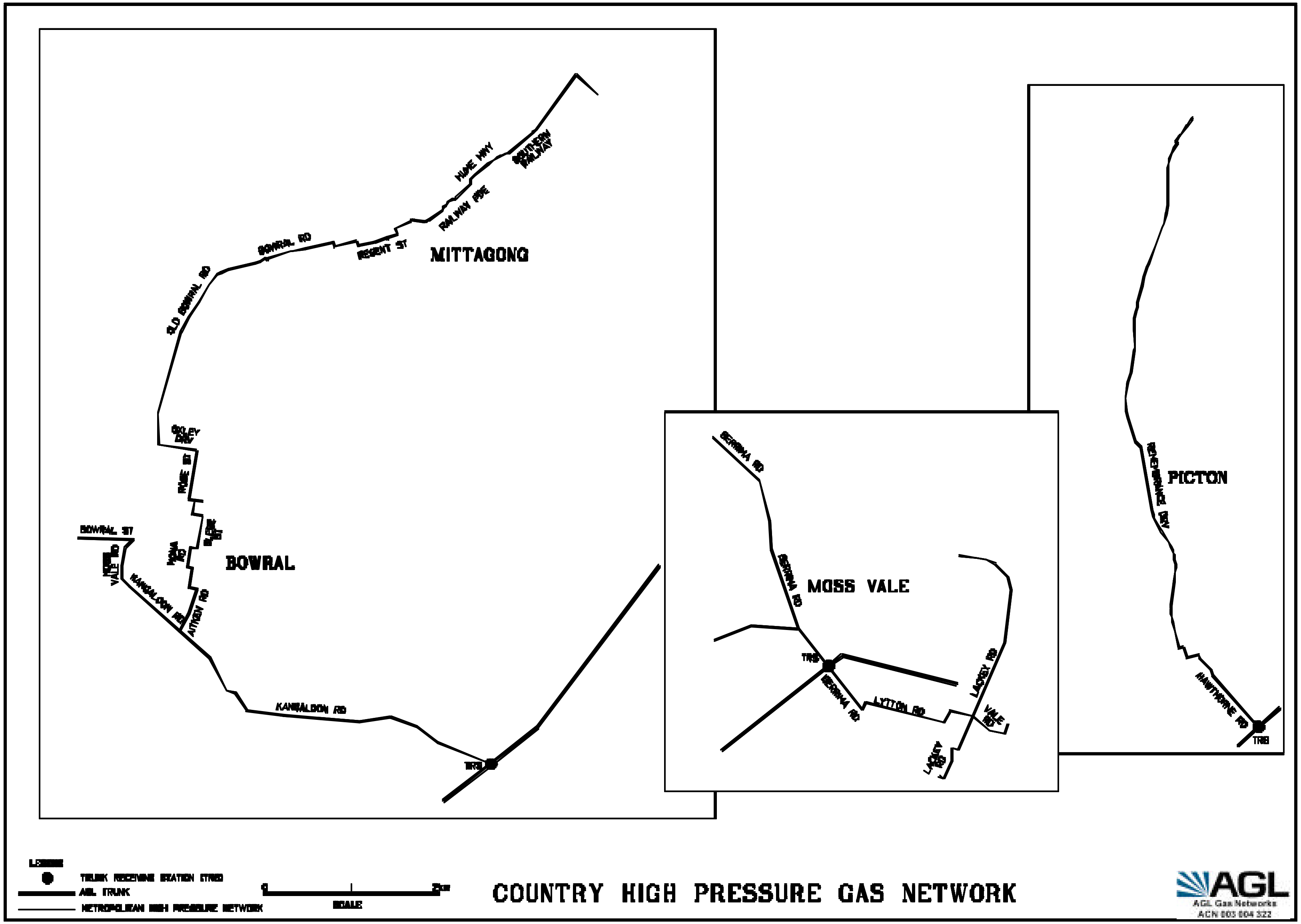
AGL TRUNK
METROPOLITAN HIGH PRESSURE NETWORK
EASTERN GAS PIPELINE
CUSTODY TRANSFER STATION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AITKEN RD
TRS
MOSS VALE
BERRIMA RD
LYTTON RD
LACKEY RD
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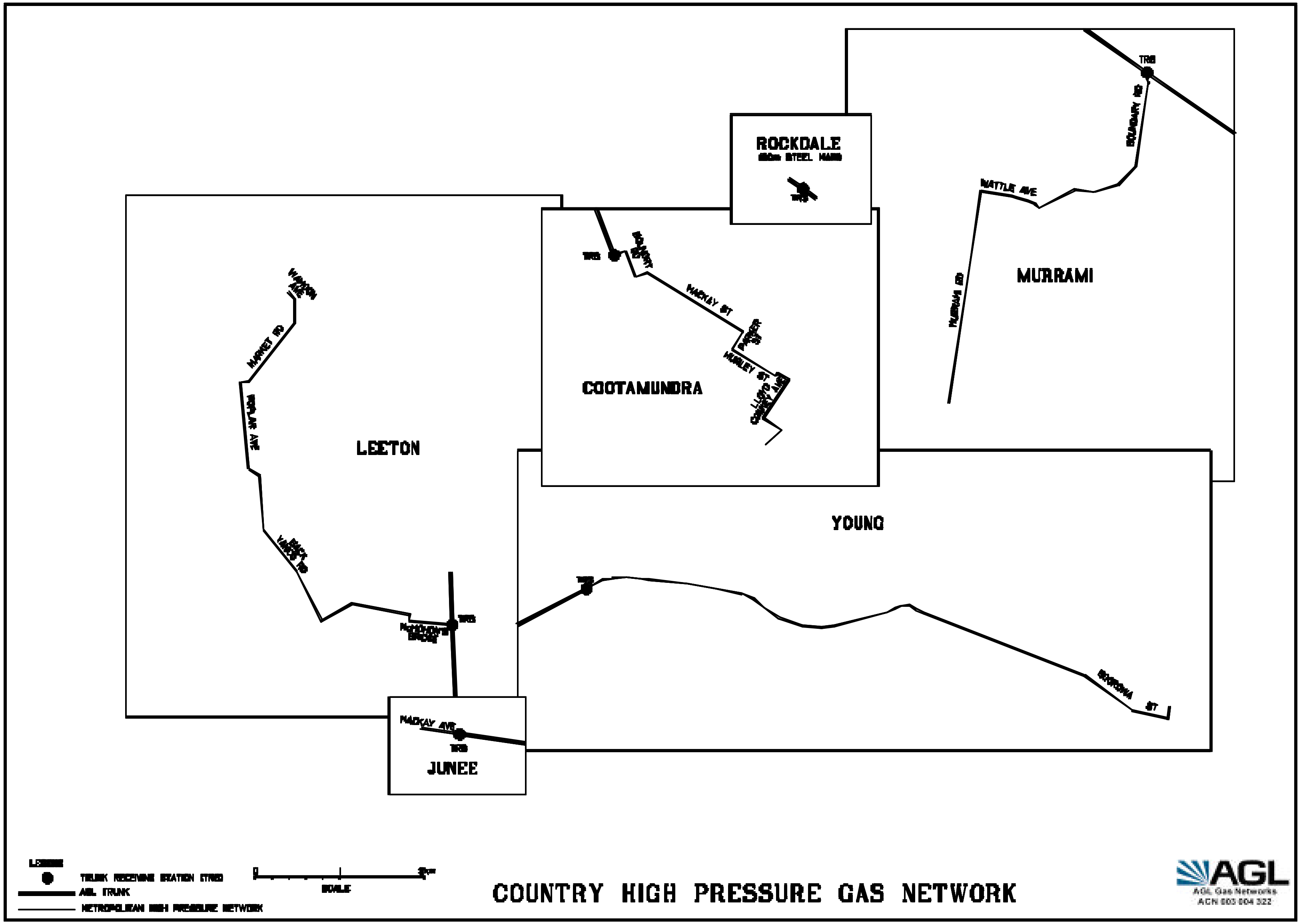
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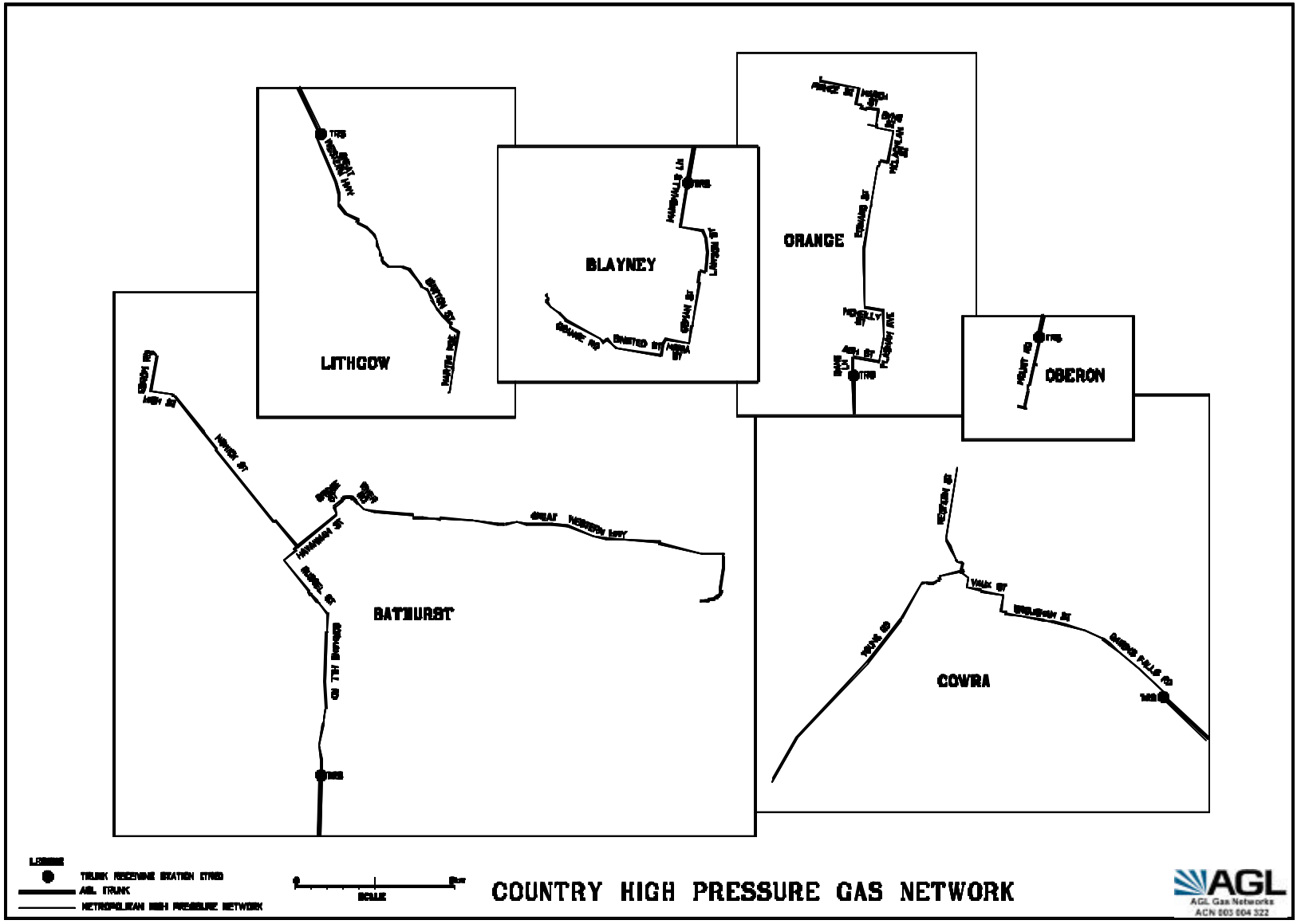
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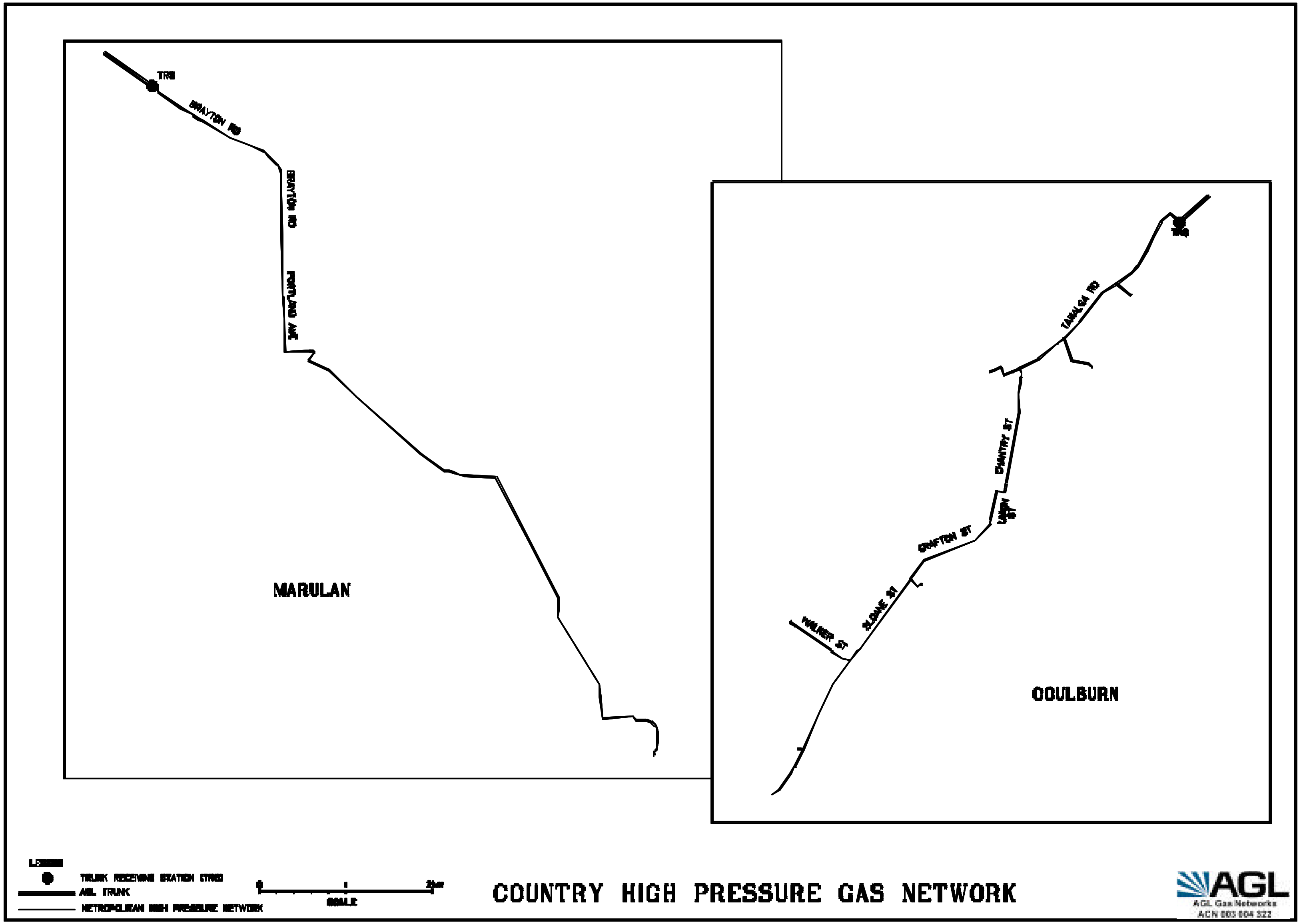
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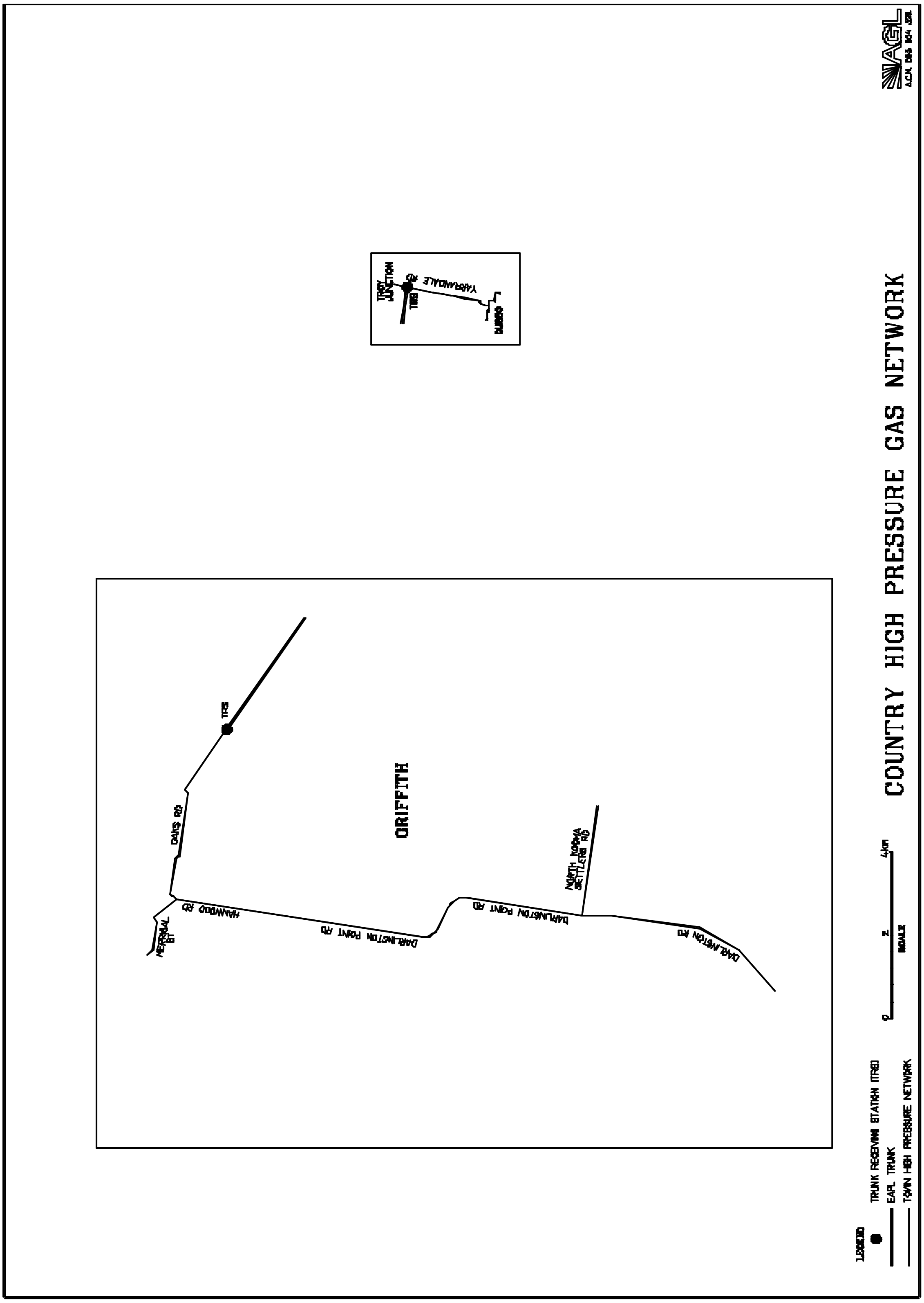
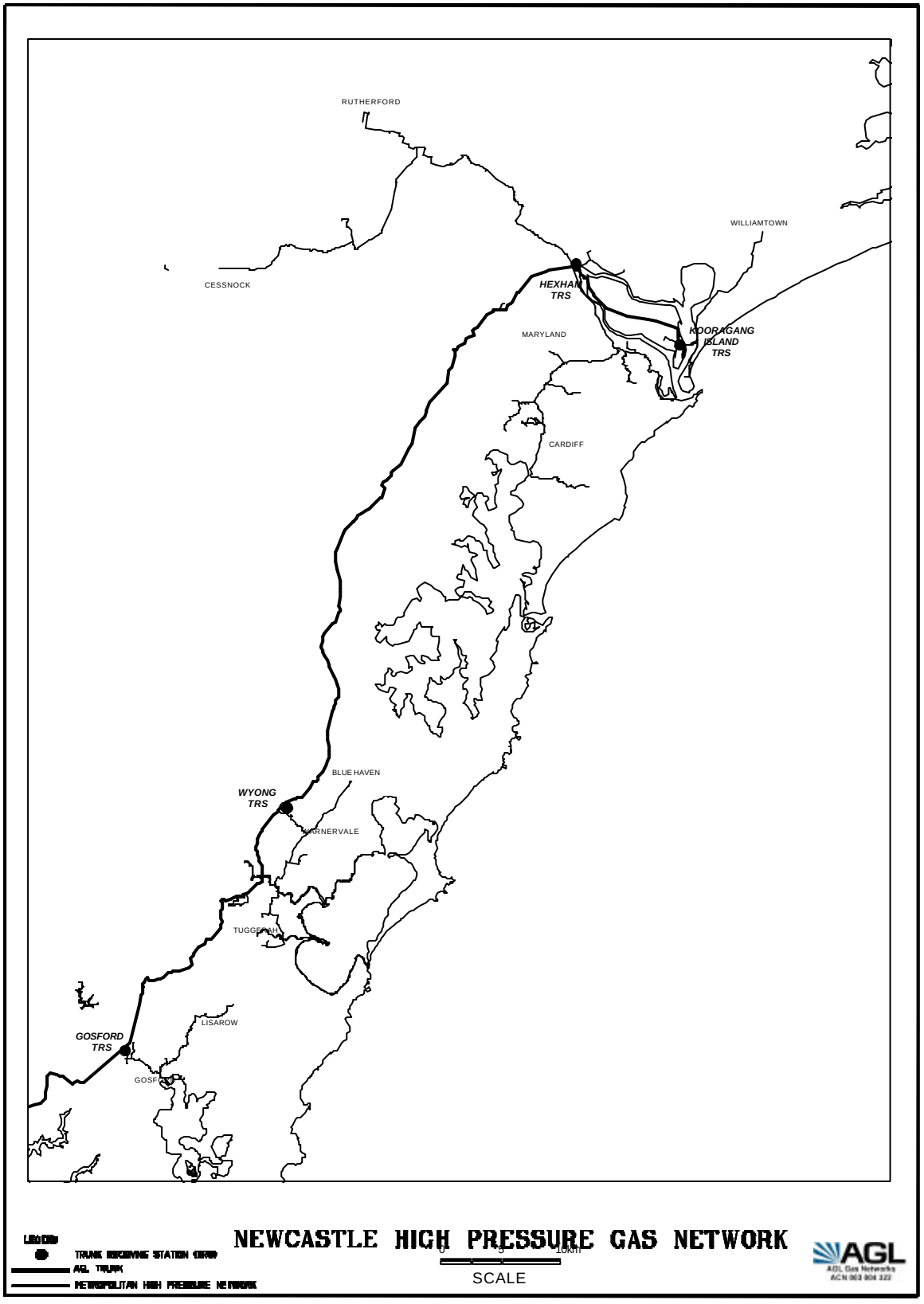
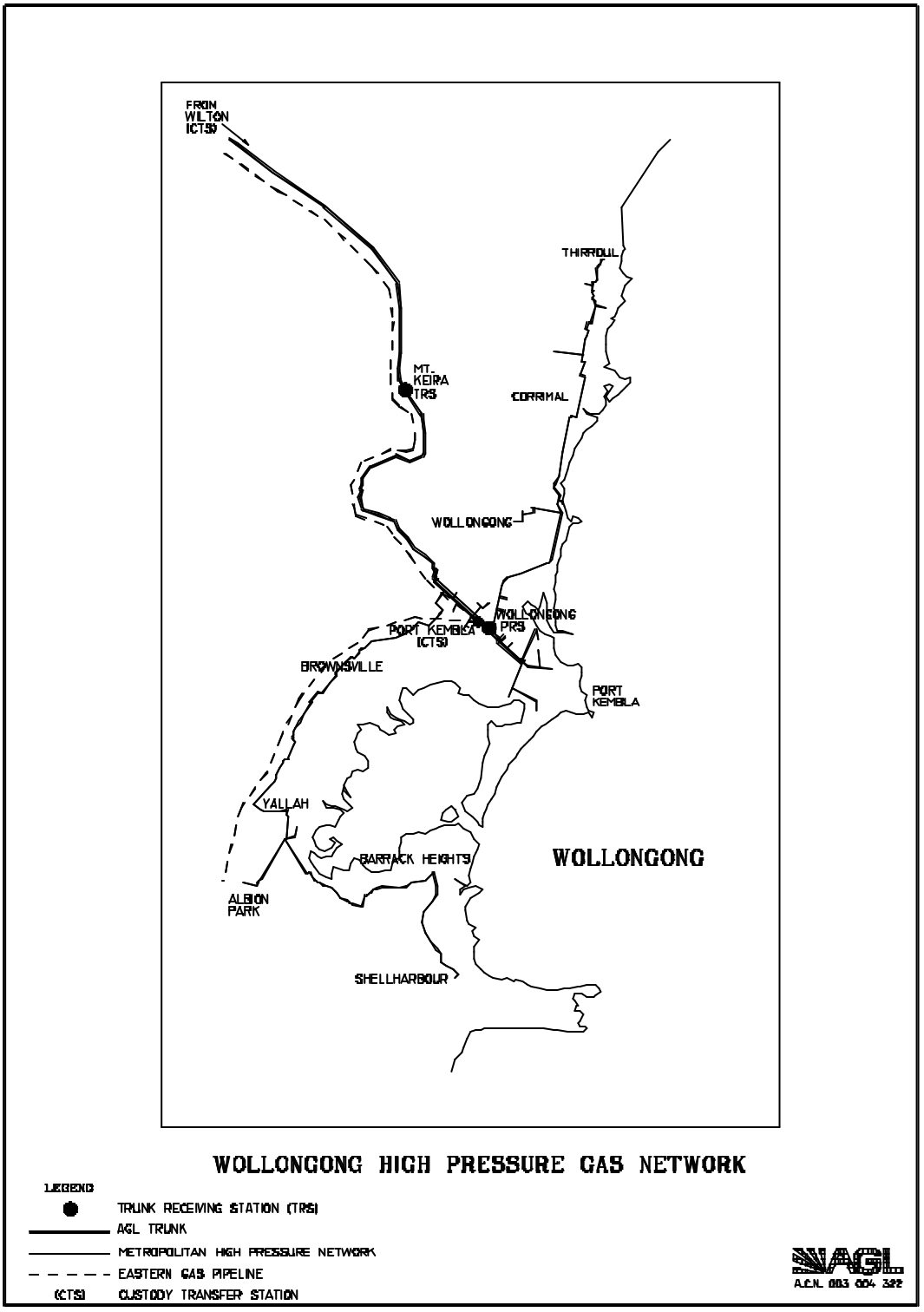

COUNTRY HIGH PRESSURE GAS NETWORK
GRIFFITH
DARLINGTON POINT RD
HANWOOD RD
DAYS RD
LEGEND
TRUNK RECEIVING STATION (TRS)
EAPL TRUNK
TOWN HIGH PRESSURE NETWORK
SCALE


RUTHERFORD
WILLIAMTOWN
CESSNOCK
HEXHAM TRS
KOORAGANG ISLAND TRS
MARYLAND
CARDIFF
BLUE HAVEN
WYONG TRS
KARNERVALE
TUGGERAH
LISAROW
GOSFORD TRS
GOSFORD
LEGEND
TRUNK RECEIVING STATION (GTRS)
AGL TRUNK
METROPOLITAN HIGH PRESSURE NETWORK
NEWCASTLE HIGH PRESSURE GAS NETWORK
0 5 10KM
SCALE
AGL
AGL Gas Networks
ACN 003 004 322


FROM WILTON (CTS)
THIRROUL
MT. KEIRA TRS
CORRIMAL
WOLLONGONG
WOLLONGONG PRS
PORT KEMBLA (CTS)
BROWNSVILLE
PORT KEMBLA
YALLAH
BARRACK HEIGHTS
WOLLONGONG
ALBION PARK
SHELLHARBOUR
WOLLONGONG HIGH PRESSURE GAS NETWORK
LEGEND
TRUNK RECEIVING STATION (TRS)
AGL TRUNK
METROPOLITAN HIGH PRESSURE NETWORK
EASTERN GAS PIPELINE
(CTS) CUSTODY TRANSFER STATION
AGL
A.C.N. 003 004 322

ATTACHMENT 2

EXTENT OF AGLGN NETWORKS

MAIN							NETWORK DESCRIPTION		LOCAL GOVERNMENT AREAS
	RECEIPT AND SUPPLY POINTS								
	TRS Location	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	POTS Location	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	High Pressure	Medium Pressure	
Moomba – Young (APT)				West Wyalong	1,750	1,750		3	Bland
Young – Lithgow (APT)	Cowra	1,750	1,750				3	3	Cowra
	Blayney	1,750	1,750				3	3	Blayney
	Orange	1,750	1,750				3	3	Orange
				Milthorpe	1,750	1,750		3	Orange
	Bathurst	1,750	1,750				3	3	Bathurst
									Evans
	Oberon	1,750	1,750				3	3	Oberon
	Lithgow	1,750	1,750				3	3	Greater Lithgow
				Wallerawang	1,750	1,750		3	Greater Lithgow
	Young	1,750	1,750				3	3	Young
	Cootamundra	1,750	1,750					3	Cootamundra
				Junee	1,750	1,750		3	Junee
				Coolamon	1,750	1,750		3	Coolamon
				Ganmain	1,750	1,750		3	Coolamon
				Narrandera	1,750	1,750		3	Narrandera
	Rockdale	1,750	1,750					3	
				Leeton	1,750	1,750	3	3	Leeton
				Murrami	1,750	1,750		3	Narranderra
	Yoogali (Griffith)	1,750	1,750				3	3	Griffith

MAIN							NETWORK DESCRIPTION		LOCAL GOVERNMENT AREAS
	RECEIPT AND SUPPLY POINTS								
	TRS Location	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	POTS Location	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	High Pressure	Medium Pressure	
Young - Wilton (APT)				Boorowa	1750	1750		3	Boorowa
				Yass	1750	1750	3	3	Yass
	Goulburn	1750	1750				3	3	Goulburn
	Marulan	1750	1750				3	3	Mulwaree
				Sally's Corner	1750	1750	3	3	Wingecarribee
	Mossvale	1750	1750				3	3	Mittagong
	Bowral	1750	1750				3	3	Wingecarribee
				Bargo	1750	1750		3	Wingecarribee
Wilton CTS		3,800	3,800						
Wilton-Mt Keira (AGL)	Mt Keira	3,800	1,750				3	3	Wollongong Shellharbour Kiama
Mt Keira – Wollongong (AGL)	Wollongong	2,600	1,750				3	3	Wollongong Shellharbour Kiama
Wilton-Horsley Park (AGL)	Appin	3,800	1,750				3	3	Wollondilly
				Appin	3,800	1,750		3	Wollondilly
	Campbelltown	3,800	1,750				3	3	Sydney (see list)
	West Hoxton	3,800	1,750				3	3	
Horsley Park-Plumpton (AGL)	Horsley Park	3,800	3,500				3	3	Sydney (see list)
	Eastern Creek	3,800	3,500				3	3	Sydney (see list)
Plumpton-Kooragang Island (AGL)	Plumpton	3,800	1,750				3	3	Sydney (see list)
				Maroota	3,800	1,750		3	
	Windsor	3,800	1,750				3	3	
	Gosford	3,800	1,750				3	3	Gosford
				Warnervale	3,800	1,750		3	Wyong
	Wyong	3,800	1,750				3	3	

MAIN							NETWORK DESCRIPTION		LOCAL GOVERNMENT AREAS
	RECEIPT AND SUPPLY POINTS								
	TRS Location	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	POTS Location	Min. Receipt Pressure (kPa)	Min. Delivery Pressure at Inlet to TRS/POTS	High Pressure	Medium Pressure	
				Wyee	3,800	1,750		3	
				Morisset	3,800	1,750		3	Lake Macquarie
				Minmi	3,800	1,750		3	Newcastle
	Hexham	3,800	1,750				3	3	Maitland
	Kooragang Island	3,800	1,750				3	3	Cessnock
									Singleton
									Muswellbrook
									Port Stephens
Marsden - Dubbo (APT)	Dubbo	1,750	1,750				3	3	Dubbo
				Dubbo West	1,750	1,750		3	Wellington
				Forbes	1,750	1,750		3	Forbes
				Parkes	1,750	1,750		3	Parkes
				Narromine	1,750	1,750		3	Narromine
Horsley Park CTS (EGP)		3,600	3,600						
Port Kembla CTS (EGP)		2,600	2,600						

7000 kPa

ATTACHMENT 3

ASSESSMENT RATINGS FOR POSTCODES TO DERIVE CONTRACT PRICE ZONES

SYDNEY	Cost-Reflectivity Drivers				Calculated	Assigned
Postcode	1	2	3	4	Zone	Zone
2000	5	2	3	5	3.75	4
2006	4	2	3	4	3.25	3
2007	4	2	3	4	3.25	3
2009	4	3	4	4	3.75	4
2010	5	2	3	5	3.75	4
2011	5	3	4	5	4.25	4
2015	4	2	2	3	2.75	3
2017	5	2	3	3	3.25	3
2018	5	2	4	3	3.5	4
2019	5	1	2	3	2.75	3
2020	4	1	2	3	2.5	3
2022	5	4	4	4	4.25	4
2028	5	4	4	5	4.5	5
2031	5	4	2	4	3.75	4
2032	5	2	5	5	4.25	4
2033	5	3	2	4	3.5	3
2035	5	2	4	4	3.75	4
2036	5	1	1	3	2.5	3
2039	4	2	4	5	3.75	4
2040	4	1	4	4	3.25	3
2044	4	1	3	3	2.75	3
2046	4	1	3	3	2.75	3
2050	4	2	4	4	3.5	3
2064	4	3	4	4	3.75	4
2065	4	3	3	5	3.75	4
2066	4	2	4	4	3.5	4
2067	4	1	4	5	3.5	4
2076	4	5	5	4	4.5	5
2077	4	5	5	4	4.5	5
2080	4	5	5	4	4.5	5
2085	5	5	5	4	4.75	5
2095	5	5	4	5	4.75	5
2099	5	5	5	4	4.75	5
2100	5	5	4	4	4.5	5
2103	5	5	4	4	4.5	5
2111	4	2	4	4	3.5	4
2112	3	2	3	4	3	3
2113	4	1	2	4	2.75	3
2115	3	3	3	3	3	3
2116	3	1	3	3	2.5	3

SYDNEY	Cost-Reflectivity Drivers				Calculated	Assigned
Postcode	1	2	3	4	Zone	Zone
2120	3	5	4	4	4	4
2122	3	4	4	4	3.75	4
2128	2	2	4	2	2.5	3
2136	3	2	2	3	2.5	3
2137	3	1	4	3	2.75	3
2138	3	1	3	3	2.5	3
2140	3	1	3	3	2.5	3
2141	3	1	2	3	2.25	2
2142	2	1	1	2	1.5	2
2143	2	1	4	2	2.25	2
2144	2	1	3	2	2	2
2145	2	2	3	2	2.25	2
2146	2	2	5	2	2.75	3
2147	2	2	3	2	2.25	2
2148	1	2	2	2	1.75	2
2151	2	3	3	2	2.5	3
2152	2	2	4	2	2.5	3
2154	2	4	4	4	3.5	4
2157	2	4	4	2	3	3
2161	2	1	2	2	1.75	2
2163	2	2	3	2	2.25	2
2164	1	1	1	1	1	1
2165	1	1	3	1	1.5	2
2166	1	3	4	1	2.25	2
2170	1	2	2	1	1.5	2
2171	1	1	2	1	1.25	1
2173	1	3	5	1	2.5	3
2190	3	3	4	2	3	3
2196	3	3	4	4	3.5	4
2199	2	3	5	2	3	3
2200	2	3	3	2	2.5	3
2204	4	2	3	3	3	3
2205	4	1	5	3	3.25	3
2208	3	3	5	3	3.5	4
2211	2	3	4	3	3	3
2212	2	3	4	2	2.75	3
2214	2	4	4	2	3	3
2216	4	1	5	3	3.25	3
2217	4	1	4	3	3	3
2220	3	3	5	3	3.5	4
2228	3	3	5	3	3.5	4
2229	4	3	4	3	3.5	4
2231	5	5	2	3	3.75	4
2232	3	5	3	3	3.5	4
2560	1	3	4	2	2.5	3
2565	1	3	2	1	1.75	2

SYDNEY	Cost-Reflectivity Drivers				Calculated	Assigned
Postcode	1	2	3	4	Zone	Zone
2566	1	4	4	1	2.5	3
2747	2	1	5	2	2.5	3
2750	3	1	2	2	2	2
2755	2	2	5	2	2.75	3
2756	1	2	4	3	2.5	3
2760	2	1	5	1	2.25	2
2761	1	1	3	1	1.5	1
2762	1	1	3	1	1.5	1
2765	1	3	4	2	2.5	3
2766	1	2	1	1	1	1
2777	3	3	5	3	3.5	4
2780	5	5	5	3	4.5	5
Appin	1	1	1	1	1	1

NEWCASTLE	Cost-Reflectivity Drivers				Calculated	Assigned
Postcode	1	2	3	4	Zone	Zone
2250	1	1	1	1	1	1
2256	2	2	2	1	1.75	2
2259	1	1	2	2	1.5	2
2260	2	2	3	2	2.25	2
2261	2	2	2	2	2	2
2262	2	2	3	2	2.25	2
2285	1	2	2	1	1.5	1
2290	3	3	3	1	2.5	3
2294	1	1	2	2	1.5	2
2298	2	2	3	2	2.25	2
2300	2	2	3	3	2.5	3
2304	1	1	1	2	1.25	1
2305	1	3	3	2	2.25	2
2308	2	2	1	1	1.5	1
2314	3	3	3	1	2.5	3
2320	3	3	2	1	2.25	2
2322	1	1	1	1	1	1
2323	2	2	2	1	1.75	2
2324	3	3	3	1	2.5	3
2325	3	3	3	1	2.5	3
2326	3	3	2	1	2.25	2
2330	3	3	2	1	2.25	3

WOLLONGONG	Cost-Reflectivity Drivers				Calculated	Assigned
Postcode	1	2	3	4	Zone	Zone
2500	2	2	2	3	2.25	2
2505	2	2	3	2	2.25	2
2505-BHP	1	1	1	1	1	1
2516	3	3	3	2	2.75	3
2526	2	3	2	2	2.25	2
2527	3	3	3	2	2.75	3

EXPLANATORY NOTE:

Each postcode within Sydney is assigned to one of five price zones. Each postcode within Newcastle and Wollongong is assigned to one of three price zones. The postcodes are grouped into zones based on an evaluation of the following "cost reflectivity drivers":

1. the relative location of the postcode to the Trunk main;
2. relative distance of the postcode from the Primary mains;
3. the utilisation of assets by both Contract and Tariff customers;
4. the construction costs of mains in the geographical location.

In the above table, each postcode is given assessment ratings for each of the cost reflectivity drivers. The postcodes in Sydney are rated on the basis of 1 to 5, the rating of 1 being the most cost reflective and 5 being the least cost reflective. In the case of the smaller regions of Newcastle and Wollongong, the postcodes are rated on the basis of 1 to 3.

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ATTACHMENT 4

INDEX OF NATIONAL ACCESS CODE ATTACHMENT A TO THIS ACCESS ARRANGEMENT INFORMATION

Categories of information to be disclosed as apart of the Access Arrangement Information

Category in Access Code	Reference in Revised Access Arrangement Information
Category 1: Information regarding Access and Pricing Principles	
Tariff determination methodology	3.1
Cost Allocation approach	3.2
Incentive structure	3.3
Category 2: Information regarding Capital Costs	
Asset values for each pricing zone, service or category of asset	Attachment 5
Information as to asset valuation methodologies – historical cost or asset valuation	5.1.1 and Section 10
Assumptions on life of asset for depreciation	5.2
Depreciation	5.2
Accumulated depreciation	5.2
Committed capital works and capital investment	5.3.4
Description of nature and justification for planned capital investment	5.3
Rates of return – on equity and on debt	5.6
Capital Structure – debt/equity split assumed	5.6
Equity returns assumed – variables used in derivation	5.6
Debt costs assumed – variables used in Derivation	5.6
Category 3: Information regarding Operations and Maintenance Costs	
Fixed versus variable costs	6.7
Cost allocation between zones, services or categories of asset and between regulated and unregulated	Sections 8 and 9
Wages and Salaries – by pricing zone, service or asset category	6.6
Cost of services by other including rental equipment	6.6
Gas used in operations – unaccounted for gas to be separated from compressor fuel	6.4.3
Materials and supply	6.6
Property Taxes	6.6
Category 4: Information on Overheads and Marketing Costs	
Total service provider costs at corporate level	6.4
Allocation of costs between regulated and unregulated segments	6.4
Allocation of costs between particular zones, services or categories of asset	Sections 8 and 9

Category in Access Code	Reference in Revised Access Arrangement Information
Category 5: Information regarding System Capacity and Volume assumptions	
Description of system capabilities	Section 10
Map of piping system – pipe sizes, distances and maximum delivery capability	Section 10 and Attachments 1 and 2
Average daily and peak demand at "city gates" defined by volume and pressure	10.5.2
Annual volume across each pricing zone, service or category of asset	10.5.2
System load profile by month in each pricing zone, service or category of asset	10.5.2
Total Number of customers in each pricing zone, service or category of asset	10.5.3
Category 6: Information regarding Key Performance Indicators	
Industry KPIs used by regulator to assess "reasonable incurred" costs	Section 11
Service provider's KPIs for each pricing zone, service or category of asset	Section 11

ATTACHMENT 5

ASSET VALUATIONS OF TRUNK ZONES AND DISTRIBUTION SYSTEM REGIONS

Contract Segment Allocation Of Trunk Pipeline Asset Values

Region	Asset Value 30/6/2004 ($M)	Contract Market Share (derived from Fully Distributed Methodology) ($M)
Zone A	48.8	24.6
Zone A	22.5	17.7
Zone A	24.2	19.3
Zone A	23.7	20.3
Total Wilton-Newcastle	**119.3**	**81.9**
Zone E	**10.2**	**2.1**

Contract Segment Allocation Of Local Network Asset Values

Region	Asset Value 30/6/2004 ($M)	Contract Market Share (derived from Fully Distributed Methodology) ($M)
Sydney	1404.1	148.7
Newcastle	161.0	17.2
Wollongong	69.5	4.1
Country	126.2	13.2
Total	**1760.9**	**183.2**

AGL GAS NETWORKS

Addendum to AGL Gas Networks Access Arrangement for NSW

Schedule of Prices in 2004/2005 Dollars

Exclusive of GST

Proposed Reference Tariffs Effective 1 January, 2005

This addendum is for information purposes only and does not form part of the Access Arrangement. All charges in this addendum are exclusive of GST and expressed in 2004/2005 dollars.

Reference Tariffs have been determined from the forecast Cost of Service throughout the Regulatory Period as set out in the Access Arrangement Information. The Cost of Service in the Access Arrangement Information and the numerical values for Reference Tariffs in this addendum are expressed in 2004/05 dollars assuming CPI of 2.75% per annum for both 2003/04 and 2004/05.

Although the Cost of Service and Reference Tariffs should be adjusted to reflect actual CPI for the two relevant years, in practice as prices need to be determined prior to the commencement of any given year, Reference Tariffs in this addendum will to be adjusted for the difference between 2.75% and the actual CPI for the twelve months to March 2004 and subsequent to that in accordance with section 3, part 3E of the Access Arrangement.

NON TARIFF DELIVERY POINTS

LOCAL NETWORK CHARGES

The Local Network Unit Charges, GST exclusive, expressed in real 2004/2005 dollars ($GJ/MDQ per annum) for the LN Zones in the Sydney, Newcastle/Central Coast and Wollongong areas are:

Sydney

Local Network Unit Charge for Sydney – $/GJ of MDQ per annum in real 2004/2005 dollars (GST Exclusive)

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1						
First 200GJ of booked MDQ	160.565	161.026	161.490	161.954	162.418	162.911
Next 400GJ of booked MDQ	96.339	96.615	96.894	97.172	97.451	97.747
Next 1000GJ of booked MDQ	64.226	64.410	64.596	64.782	64.967	65.164
Next 2000GJ of booked MDQ	48.169	48.308	48.447	48.586	48.726	48.873
Rest	32.113	32.205	32.298	32.391	32.484	32.582
LN Zone 2						
First 200GJ of booked MDQ	191.602	191.374	191.180	191.006	190.809	190.606
Next 400GJ of booked MDQ	114.961	114.825	114.708	114.603	114.485	114.364
Next 1000GJ of booked MDQ	76.641	76.550	76.472	76.402	76.323	76.242
Next 2000GJ of booked MDQ	57.481	57.412	57.354	57.302	57.243	57.182
Rest	38.320	38.275	38.236	38.201	38.162	38.121

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

Sydney

Local Network Unit Charge for Sydney – $/GJ of MDQ per annum in real 2004/2005 dollars (GST Exclusive)

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 3						
First 200GJ of booked MDQ	275.391	273.526	271.712	269.918	268.211	266.689
Next 400GJ of booked MDQ	165.235	164.116	163.027	161.951	160.926	160.013
Next 1000GJ of booked MDQ	110.157	109.411	108.685	107.967	107.284	106.676
Next 2000GJ of booked MDQ	82.617	82.058	81.514	80.975	80.463	80.007
Rest	55.078	54.705	54.342	53.984	53.642	53.338
LN Zone 4						
First 200GJ of booked MDQ	462.277	457.290	452.600	448.007	443.606	439.240
Next 400GJ of booked MDQ	277.366	274.374	271.560	268.804	266.164	263.544
Next 1000GJ of booked MDQ	184.911	182.916	181.040	179.203	177.442	175.696
Next 2000GJ of booked MDQ	138.683	137.187	135.780	134.402	133.082	131.772
Rest	92.455	91.458	90.520	89.601	88.721	87.848
LN Zone 5						
First 200GJ of booked MDQ	2707.237	2678.059	2649.156	2620.022	2589.971	2559.525
Next 400GJ of booked MDQ	1624.342	1606.836	1589.494	1572.013	1553.983	1535.715
Next 1000GJ of booked MDQ	1082.895	1071.224	1059.663	1048.009	1035.988	1023.810
Next 2000GJ of booked MDQ	812.171	803.418	794.747	786.007	776.991	767.858
Rest	541.447	535.612	529.831	524.004	517.994	511.905

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

Newcastle/Central Coast

Local Network Unit Charge for Newcastle/Central Coast – $/GJ of MDQ per annum in real 2004/2005 dollars (GST Exclusive)

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1						
First 200GJ of booked MDQ	73.044	72.518	72.031	71.561	71.083	70.612
Next 400GJ of booked MDQ	43.827	43.511	43.219	42.936	42.650	42.367
Next 1000GJ of booked MDQ	29.218	29.007	28.812	28.624	28.433	28.245
Next 2000GJ of booked MDQ	21.913	21.755	21.609	21.468	21.325	21.184
Rest	14.609	14.504	14.406	14.312	14.217	14.122
LN Zone 2						
First 200GJ of booked MDQ	312.745	310.034	307.475	304.952	302.368	300.028
Next 400GJ of booked MDQ	187.647	186.021	184.485	182.971	181.421	180.017
Next 1000GJ of booked MDQ	125.098	124.014	122.990	121.981	120.947	120.011
Next 2000GJ of booked MDQ	93.823	93.010	92.242	91.486	90.711	90.008
Rest	62.549	62.007	61.495	60.990	60.474	60.006
LN Zone 3						
First 200GJ of booked MDQ	698.701	687.842	677.416	667.198	656.984	647.453
Next 400GJ of booked MDQ	419.220	412.705	406.449	400.319	394.191	388.472
Next 1000GJ of booked MDQ	279.480	275.137	270.966	266.879	262.794	258.981
Next 2000GJ of booked MDQ	209.610	206.353	203.225	200.159	197.095	194.236
Rest	139.740	137.568	135.483	133.440	131.397	129.491

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

Wollongong

Local Network Unit Charge for Wollongong – $/GJ of MDQ per annum in real 2004/2005 dollars (GST Exclusive)

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1						
First 200GJ of booked MDQ	28.145	28.556	28.965	29.374	29.780	30.184
Next 400GJ of booked MDQ	16.887	17.133	17.379	17.625	17.868	18.110
Next 1000GJ of booked MDQ	11.258	11.422	11.586	11.750	11.912	12.073
Next 2000GJ of booked MDQ	8.444	8.567	8.690	8.812	8.934	9.055
Rest	5.629	5.711	5.793	5.875	5.956	6.037
LN Zone2						
First 200GJ of booked MDQ	123.683	125.681	127.671	129.654	131.601	133.526
Next 400GJ of booked MDQ	74.210	75.409	76.603	77.793	78.960	80.116
Next 1000GJ of booked MDQ	49.473	50.273	51.068	51.862	52.640	53.410
Next 2000GJ of booked MDQ	37.105	37.704	38.301	38.896	39.480	40.058
Rest	24.737	25.136	25.534	25.931	26.320	26.705
LN Zone3						
First 200GJ of booked MDQ	1853.630	1903.030	1953.532	2005.292	2057.938	2111.740
Next 400GJ of booked MDQ	1112.178	1141.818	1172.119	1203.175	1234.763	1267.044
Next 1000GJ of booked MDQ	741.452	761.212	781.413	802.117	823.175	844.696
Next 2000GJ of booked MDQ	556.089	570.909	586.060	601.588	617.381	633.522
Rest	370.726	380.606	390.706	401.058	411.588	422.348

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

OTHER NETWORK SECTIONS

The *Pressure Reduction Unit Charges*, GST exclusive, (expressed as $/GJ of MDQ_c per annum in real 2004/2005 dollars) are as follows:

Period ending 30 June 2005	10.561
Year ending 30 June 2006	10.468
Year ending 30 June 2007	10.384
Year ending 30 June 2008	10.309
Year ending 30 June 2009	10.240
Year ending 30 June 2010	10.176

The *Local Network Unit Charge* = Country Unit Charge x Distance

where:

Country Unit Charge, GST exclusive, (expressed as $ /GJ of MDQ_c per annum/km in real 2004/2005 dollars) is as follows:

Period ending 30 June 2005	39.510
Year ending 30 June 2006	39.261
Year ending 30 June 2007	39.051
Year ending 30 June 2008	38.928
Year ending 30 June 2009	38.807
Year ending 30 June 2010	38.749

LOCAL NETWORK THROUGHPUT CHARGES

Sydney

Sydney Local Network Throughput Charges ($/GJ) in real 2004/2005 dollars (GST Exclusive)

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1	2.639	2.647	2.655	2.662	2.670	2.678
LN Zone 2	3.150	3.146	3.143	3.140	3.137	3.133
LN Zone 3	4.527	4.496	4.466	4.437	4.409	4.384
LN Zone 4	4.690	4.690	4.690	4.690	4.690	4.690
LN Zone 5	4.690	4.690	4.690	4.690	4.690	4.690

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

Newcastle/Central Coast

Newcastle/Central Coast Local Network Throughput Charges ($/GJ) in real 2004/2005 dollars (GST Exclusive)

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1	1.201	1.192	1.184	1.176	1.168	1.161
LN Zone 2	4.690	4.690	4.690	4.690	4.690	4.690
LN Zone 3	4.690	4.690	4.690	4.690	4.690	4.690

Wollongong

Wollongong Local Network Throughput Charges ($/GJ) in real 2004/2005 dollars (GST Exclusive)

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
LN Zone 1	0.463	0.469	0.476	0.483	0.490	0.496
LN Zone 2	2.033	2.066	2.099	2.131	2.163	2.195
LN Zone 3	4.690	4.690	4.690	4.690	4.690	4.690

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

Other Network Sections

The Throughput Charge for other Network Sections, GST exclusive, expressed in real 2004/2005 dollars ($/GJ) are given in the Table below.

Other Network Sections LN Throughput Charges ($/GJ) in real 2004/2005 dollars (GST Exclusive)

Distance	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
0.5	0.498	0.495	0.492	0.489	0.487	0.486
1	0.823	0.817	0.813	0.809	0.806	0.804
1.5	1.148	1.140	1.134	1.129	1.125	1.123
2	1.473	1.463	1.455	1.449	1.444	1.441
2.5	1.797	1.786	1.776	1.769	1.763	1.760
3	2.122	2.108	2.096	2.089	2.082	2.078
3.5	2.447	2.431	2.417	2.409	2.401	2.397
4	2.772	2.754	2.738	2.729	2.720	2.715
4.5	3.096	3.076	3.059	3.049	3.039	3.034
5	3.421	3.399	3.380	3.369	3.358	3.352
5.5	3.746	3.722	3.701	3.689	3.677	3.671
6	4.070	4.044	4.022	4.009	3.996	3.989
6.5	4.395	4.367	4.343	4.329	4.315	4.308
7 or greater	4.690	4.690	4.690	4.690	4.690	4.690

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

TRUNK CHARGES

The charge for each Trunk Zone ($/GJ MDQ per annum), GST exclusive, expressed in real 2004/2005 dollars is:

Trunk Charges – $/GJ of MDQ per annum expressed in real 2004/2005 dollars (GST Exclusive)

	Zone A	Zone B	Zone C	Zone D	Zone E
Period Ending 30 June 2005	13.477	30.600	34.129	38.142	80.502
Year Ending 30 June 2006	13.416	30.296	33.806	37.785	81.295
Year Ending 30 June 2007	13.391	30.255	33.784	37.785	82.095
Year Ending 30 June 2008	13.366	30.212	33.762	37.785	82.905
Year Ending 30 June 2009	13.338	30.168	33.737	37.783	83.710
Year Ending 30 June 2010	13.310	30.120	33.707	37.780	84.517

TRUNK THROUGHPUT CHARGES

Trunk Throughput Charges ($/GJ) in real 2004/2005 dollars (GST Exclusive)

	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Zone A	0.2215	0.2205	0.2201	0.2197	0.2193	0.2188
Zone B	0.5030	0.4980	0.4973	0.4966	0.4959	0.4951
Zone C	0.5610	0.5557	0.5554	0.5550	0.5546	0.5541
Zone D	0.6270	0.6211	0.6211	0.6211	0.6211	0.6210
Zone E	1.3233	1.3364	1.3495	1.3628	1.3761	1.3893

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

PROVISION OF BASIC METERING EQUIPMENT CHARGES

The Provision of Basic Metering Equipment Charges is determined on the basis of the type of metering device installed at the Delivery Point.

Meter Set Type Typical/Alternative Meter	**Provision of Basic Metering Equipment Charge in $ per annum expressed in real 2004/2005 dollars (GST Exclusive)**					
	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Single Run & Bypass						
AL-425	774	774	774	774	774	774
AL-800/AL-1000/AL-1400	1,620	1,620	1,620	1,620	1,620	1,620
AL-2300/Roots3m	2,253	2,253	2,253	2,253	2,253	2,253
Romet RM140/AL-5000/Roots 5m	2,718	2,718	2,718	2,718	2,718	2,718
Roots 7m	4,158	4,158	4,158	4,158	4,158	4,158
Roots 16M/Roots 11M	4,968	4,968	4,968	4,968	4,968	4,968
Singer 4GT/Rockwell AT-18/Instromet G400	5,894	5,894	5,894	5,894	5,894	5,894
Singer 6GT/Rockwell AT-30	8,462	8,462	8,462	8,462	8,462	8,462
Singer 8GT/Rockwell AT-60	10,019	10,019	10,019	10,019	10,019	10,019
Singer 12GT	17,185	17,185	17,185	17,185	17,185	17,185
Double Run (& Bypass)						
AL-2300	4,502	4,502	4,502	4,502	4,502	4,502
AL-5000/Roots 5m	5,402	5,402	5,402	5,402	5,402	5,402
Roots 7m	7,897	7,897	7,897	7,897	7,897	7,897
Roots 16M/Roots 11M	9,148	9,148	9,148	9,148	9,148	9,148
Singer 4GT/Rockwell AT-18	11,047	11,047	11,047	11,047	11,047	11,047
Singer 6GT/Rockwell AT-30	15,597	15,597	15,597	15,597	15,597	15,597
Singer 8GT/Rockwell AT-60	19,357	19,357	19,357	19,357	19,357	19,357
Singer 12GT/Rockwell T140/Instromet 12"g4000	32,411	32,411	32,411	32,411	32,411	32,411
Double Run & Shunt (Shunt Meter to size)						
6GT + S	17,378	17,378	17,378	17,378	17,378	17,378
8GT + S	21,421	21,421	21,421	21,421	21,421	21,421
12GT + S	35,966	35,966	35,966	35,966	35,966	35,966
Single Run & Shunt or Double Run (different Meters) – requiring special charges						
Roots 7M + AL425	4,780	4,780	4,780	4,780	4,780	4,780
Roots 16M + AL1400	6,084	6,084	6,084	6,084	6,084	6,084
4GT + AL1400	9,368	9,368	9,368	9,368	9,368	9,368
6GT + AL 1400	9,436	9,436	9,436	9,436	9,436	9,436
6GT + AL5000	10,188	10,188	10,188	10,188	10,188	10,188

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

PROVISION OF ON-SITE DATA AND COMMUNICATION EQUIPMENT CHARGE

Provision of On-Site Data and Communication Equipment Charge ($ p.a.) in real 2004/2005 dollars (GST Exclusive)						
Meter Reading Cycle	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Charge per Delivery Station (includes the first 2 meters at a Delivery Station)	1,013	1,013	1,013	1,013	1,013	1,013
Charge for each additional 1 or 2 meters at a Delivery Station	240	240	240	240	240	240

PROVISION OF METER READING CHARGE

Provision of Meter Reading Charge for Non-Tariff Delivery Points ($ p.a.) in real 2004/2005 dollars (GST Exclusive)						
	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Charge per Delivery Station (includes the first 2 meters at a Delivery Station)	543	543	543	543	543	543
Charge for each additional 1 or 2 meters at a Delivery Station	129	129	129	129	129	129

CAPPED RATES

The annual quantity block structure and relevant capped rate in real 2004/2005 dollars (GST exclusive) are:

Annual Quantity Block Structure	Relevant Capped Rate $/GJ Equivalent in 2002/2003 Dollars (GST Exclusive)
First 20 TJ p.a.	4.26
Next 30 TJ p.a.	3.47
All additional	2.94

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

TARIFF DELIVERY POINTS

TARIFF THROUGHPUT CHARGES

The Throughput Charges for the Tariff Service, GST exclusive, in real 2004/2005 dollars are:

Throughput Charge for Tariff Service ($/GJ) in real 2004/2005 dollars (GST Exclusive)

Block Size (GJ per month)	Block Size (GJ Per Qtr)	Period Ending 30 June 2005 ($ per GJ)	Year Ending 30 June 2006 ($ per GJ)	Period Ending 30 June 2007 ($ per GJ)	Year Ending 30 June 2008 ($ per GJ)	Year Ending 30 June 2009 ($ per GJ)	Year Ending 30 June 2010 ($ per GJ)
First 1.25	First 3.75	8.551	8.533	8.522	8.512	8.503	8.495
Next 1.5	Next 4.5	6.472	6.458	6.449	6.442	6.435	6.429
Next 5.75	Next 17.25	6.212	6.198	6.190	6.183	6.177	6.171
Next 75	Next 225	6.071	6.058	6.050	6.043	6.037	6.031
Next 333.5	Next 1000.5	5.252	5.240	5.233	5.228	5.222	5.217
All additional	All additional	3.947	3.939	3.934	3.929	3.925	3.921

The Fixed Charges for the Tariff Service per annum, GST exclusive, in real 2004/2005 dollars are:

Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
42.885	42.792	42.737	42.689	42.645	42.605

TRUNK TARIFF CHARGE

Charge for Trunk Tariff Service ($/GJ) in real 2004/2005 dollars (GST Exclusive)

Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
0.1946	0.1944	0.1944	0.1944	0.1944	0.1943

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement

PROVISION OF BASIC METERING EQUIPMENT CHARGES

Provision of Basic Metering Equipment Charge per annum in real 2004/2005 dollars (GST Exclusive)						
Meter Provision Charges	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
For meters with capacity less than or equal to 6m3/hr ($ p.a.)	22.294	22.084	21.911	21.762	21.628	21.508
For meters with a capacity of greater than 6m3/hr ($/GJ)	0.240	0.240	0.240	0.240	0.240	0.240

The Provision of Basic Metering Equipment Charge is payable each billing period. For meters with a capacity greater than 6m3/hr there is a minimum charge payable each billing period. This minimum charge in real 2004/2005 dollars, GST exclusive is $4.00 per monthly billing period and $12.00 per quarterly billing period.

PROVISION OF METER READING CHARGE

The Provision of Meter Reading Charge is payable each billing period.

Provision of Meter Reading Charge for Tariff Delivery Points ($ p.a.) in real 2004/2005 dollars (GST Exclusive)						
Meter Reading Cycle	Period Ending 30 June 2005	Year Ending 30 June 2006	Year Ending 30 June 2007	Year Ending 30 June 2008	Year Ending 30 June 2009	Year Ending 30 June 2010
Quarterly	3.056	3.027	3.003	2.983	2.964	2.948
Monthly	32.307	32.004	31.752	31.536	31.342	31.169

CHARGES FOR ANCILLARY SERVICES

	GST exclusive (2004/2005 dollars)
Request for Service	$54.55, plus $54.55 per hour after the first hour
Special meter read	$40.91
Reconnection fee	$77.27
Disconnection fee	$104.55

Prices exclude GST. GST will be added to all prices in accordance with clause 3.19 of the Access Arrangement