

ACCESS ARRANGEMENT

FOR

**GREAT SOUTHERN ENERGY
GAS NETWORKS PTY LIMITED**

**NATURAL GAS DISTRIBUTION SYSTEM
IN WAGGA WAGGA**

*Drafted and Approved by
the Independent Pricing and Regulatory Tribunal of NSW
under Section 2.20(a) of the National Third Party Access Code for Natural
Gas Pipeline Systems*

**INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES**

**ACCESS ARRANGEMENT
FOR
GREAT SOUTHERN ENERGY
GAS NETWORKS PTY LIMITED
NATURAL GAS DISTRIBUTION SYSTEM
IN WAGGA WAGGA**

*Drafted and Approved by
the Independent Pricing and Regulatory Tribunal of NSW
under Section 2.20(a) of the National Third Party Access Code for Natural
Gas Pipeline Systems*

TABLE OF CONTENTS

1	INTRODUCTION	1
	1.1 Basis of Access Arrangement	1
	1.2 Interpretation of expressions and other matters	1
2	SERVICE POLICY	2
	2.1 Services to be offered	2
	2.2 Great Southern Networks' Service Policy	2
	2.3 Transportation Services	2
	2.3.1 Contract Carriage	2
	2.3.2 General	3
	2.3.3 Period of a Transportation Services Agreement	3
	2.3.4 Terms and Conditions of Transportation Service	3
	2.4 Negotiated Services	4
	2.5 Obtaining Services	4
	2.6 Pre-conditions to the provision of Services	5
	2.6.1 Natural Gas	5
	2.6.2 Compliance with Laws	5
	2.6.3 Bonds	5
3	REFERENCE TARIFFS AND CHARGES	8
	3.1 Introduction	8
	3.2 Pricing Principles	9
	3.2.1 Code Objectives	9
	3.2.2 Pricing Principles	9
	3.3 Reference Tariff Structure	10
	3.3.1 Two tariffs - Contract tariff and Volume tariff	10
	3.3.2 Contract Customers	10
	3.3.3 Volume customers	11
	3.3.4 Election to be charged Contract Tariff	11
	3.4 Reference Tariff Zones	12
	3.5 Cost Allocation Methodology	12
	3.5.1 Cost allocation principles	12
	3.5.2 Cost of supply model	14
	3.5.3 Initial capital base	14
	3.6 Reference Tariffs	14
	3.7 Variation in Reference Tariffs	15
	3.8 Incentives in the Reference Tariff	16
	3.9 Retail Contestability	17
4	ACCESS POLICY	18
	4.1 Request for Service	18
	4.1.1 Form and details of Request	18
	4.1.2 Number of active Requests	18
	4.1.3 Obligation to acknowledge receipt	19
	4.1.4 Incomplete or deficient Request	19
	4.1.5 Charges for processing Request	19
	4.2 Users with existing Service Agreements	19
	4.2.1 Grant of Options to Renew	19
	4.2.2 Users Supply Tariff Customers	20
	4.3 Availability of Capacity	20

4.3.1	Sufficient Capacity Available	20
4.3.2	Insufficient Capacity Available	20
4.3.3	Lapse of a Request for Service	20
4.4	User's Default	21
4.4.1	Form of Agreement with User's Customers	21
4.4.2	User Default	21
4.4.3	Election by User's Customers	22
4.4.4	Posted Supply Price	22
4.4.5	Arrangements with Existing Supplier	23
5	QUEUING POLICY	24
5.1	Basis of Queue	24
5.2	Formation of Queue	24
5.2.1	Advice to each Prospective User	24
5.2.2	Lapse of position in Queue	25
5.2.3	Dissolution of Queue	25
5.2.4	Conditions applicable to a Queue	26
5.3	Priority of Prospective Users in obtaining Services	26
5.3.1	Priority dates in relation to a Unique Service	26
5.3.2	Priority dates for Common Services	27
5.3.3	Priority within Queues	27
5.4	Procedure where Capacity can be made available	28
5.4.1	Advice from Great Southern Networks	28
5.4.2	Offer From Great Southern Networks	28
5.4.3	Open Offers	29
5.4.4	Conditional Offer	29
5.5	Compensation for holding Capacity	29
6	OVERRUNS	31
6.1	General	31
6.2	Deeming Provision	31
6.3	Overrun Charges	31
6.3.1	Payment for Capacity	31
6.3.2	Overrun Payments	32
7	NATURAL GAS BALANCING	34
7.1	No Balancing	34
7.2	Receipts and Withdrawals	34
7.3	Unaccounted for Gas	35
8	TRADING POLICY	37
8.1	Bare Transfer	37
8.2	Single Zone Transfers	37
8.3	Other Transfers	38
8.4	Provision of Trading Mechanisms	38
8.4.1	Provision of Mechanism	38
8.4.2	Listing of Capacity	38
8.4.3	Charge for Trade	39
8.5	Original User Continues to Pay	39
8.6	Change of Delivery Point	39
9	NEGOTIATED SERVICES	40
9.1	Negotiated Service Agreement	40
9.2	Dispute Resolution	40

10	EXTENSIONS AND EXPANSIONS POLICY	41
	10.1 Extensions	41
	10.2 Expansions of Capacity	41
	10.3 Imposition of Surcharge	41
11	OPERATIONAL PRINCIPLES	43
	11.1 Curtailment of Supply	43
	11.1.1 Policy	43
	11.1.2 Procedure	43
	11.1.3 Ranking and priority	43
	11.1.4 Isolation of Sub-Systems	43
	11.1.5 Reconnection	43
	11.1.6 Notification regime	44
	11.2 Connection of third party distribution systems to Great Southern Networks	44
	11.2.1 By-pass and network augmentation	44
	11.2.2 Off take point	44
	11.2.3 Equipment upstream of the Point of Delivery	45
	11.2.4 Delivery Point	45
	11.2.5 Load Shedding and natural gas balancing	45
	11.2.6 Installation and operation	46
	11.2.7 Abandonment disconnection	46
	11.2.8 Indemnity	46
	11.3 Ownership of Network	47
	11.3.1 Expansion or reinforcement of the Network	47
	11.3.2 Restriction on ownership of Network	47
12	REVIEW OF ACCESS ARRANGEMENT	48
	12.1 Revision Commencement Date	48
	12.2 Triggers for Earlier Review	48
13	MISCELLANEOUS	50
	13.1 Response to requests for information	50
	13.1.1 Information concerning existing Users	50
	13.1.2 Information about the Network generally	50
	13.2 Use of Confidential Information by Great Southern Networks	51
APPENDIX 1	GLOSSARY	52
APPENDIX 2	TRANSPORTATION SERVICES AGREEMENT	60
APPENDIX 3	CONTRACT AND VOLUME REFERENCE TARIFFS	68
APPENDIX 4	REQUEST FOR SERVICE	69
APPENDIX 5	LOAD SHEDDING PRIORITIES	70
APPENDIX 6	OTHER CHARGES	71
APPENDIX 7	NATURAL GAS SPECIFICATIONS	73
APPENDIX 8	WAGGA WAGGA ZONES FOR CONTRACT CUSTOMER TARIFF PURPOSES	74

1 INTRODUCTION

1.1 Basis of Access Arrangement

- (a) This Access Arrangement (the "Access Arrangement") is prepared by the Independent Pricing and Regulatory Tribunal of New South Wales (as the Relevant Regulator) for Great Southern Energy Gas Networks Pty Limited ACN 083 199 839 ("Great Southern Networks") in accordance with section 2.20 of the National Third Party Access Code for National Gas Pipeline Systems (the "Code"). This Access Arrangement relates to the provision of gas transportation services to Users on the Network.

1.2 Interpretation of expressions and other matters

- (a) Terms expressed in the Access Arrangement have the meaning set out in the Glossary in Appendix 1.
- (b) This Access Arrangement is drafted and approved by the Relevant Regulator under section 2.20(a) of the Code.
- (c) This Access Arrangement commences on the date determined by the Relevant Regulator (the "Commencement Date") and continues to apply on these terms and conditions until it is reviewed in accordance with section 12 and the Relevant Regulator accepts any proposed revisions to this Access Arrangement (the "Revisions Commencement Date") and continues thereafter in accordance with the terms and conditions of the revised Access Arrangement and the relevant requirements of the Code.

2 SERVICE POLICY

This section contains Great Southern Networks' services policy, which sets out a description of the Services offered and matters which impact on those Services including how a User or Prospective User may obtain a Service or an element of a Service.

2.1 Services to be offered

Great Southern Networks will make available to Users or Prospective Users the following services:

- (a) Transportation Services (as described in section 2.3.2); and
- (b) such other Negotiated Services as may be agreed in any Negotiated Service Agreement with the User or Prospective User.

2.2 Great Southern Networks' Service Policy

- (a) A User of a Service will be required to enter into a Service Agreement specific to that User and that Service.
- (b) Where a User is provided with a Transportation Service this Service Agreement is a Transportation Services Agreement.
- (c) If a Prospective User requires a service other than a Transportation Service, the Prospective User may seek to negotiate a Negotiated Service Agreement with Great Southern Networks as described in section 9.

2.3 Transportation Services

2.3.1 Contract Carriage

The Network is a "Contract Carriage Pipeline" (as that term is defined in the Code).

2.3.2 General

Great Southern Networks will agree to provide the following services to a User or Prospective User under a Transportation Services Agreement (which together are the Transportation Services) namely:

- (a) receiving natural gas at the Receipt Point;
- (b) transporting the natural gas from the Receipt Point through the Network;
- (c) delivering the natural gas to the Delivery Point of the User;
- (d) installing, maintaining and repairing Metering Facilities; and
- (e) reading the Metering Facilities and forwarding metering data to the User, Transmission Operator and any other person nominated by the User.

2.3.3 Period of a Transportation Services Agreement

The period of a Transportation Services Agreement will start on the date Great Southern Networks commences to provide the Transportation Services to the User and continues for a minimum period of 1 year after that date and a maximum period of 5 years after that date. The election as to the period of the agreement is to be made by the User at the time the Transportation Services Agreement is entered into.

2.3.4 Terms and Conditions of Transportation Service

- (a) Great Southern Networks will provide Users with the Transportation Services on the terms and conditions set out in its standard Transportation Services Agreement from time to time.
- (b) The terms and conditions on which Transportation Services will be provided by Great Southern Networks will include those set out in Appendix 2.

2.4 Negotiated Services

- (a) Great Southern Networks will negotiate in good faith with a User or Prospective User to provide services in connection with the Network other than or in addition to the Transportation Services.
- (b) Such services, referred to as Negotiated Services, may include but are not limited to:
 - (1) the delivery of natural gas to a Delivery Point at a higher pressure than the Minimum Delivery Pressure;
 - (2) the delivery of natural gas to a proposed Delivery Point which is located at a distance from the Network exceeding the distance set out in section 10.3(a); and
 - (3) the transportation of natural gas and its delivery to a Delivery Point on the basis that such transportation and delivery can be interrupted other than for safety or operational reasons.

2.5 Obtaining Services

A User or Prospective User that complies with the relevant requirements of this Access Arrangement may obtain from Great Southern Networks:

- (a) a Transportation Service; or
- (b) a Negotiated Service.

The principles governing charges for Transportation Services are set out in section 3 and the procedures to be followed for obtaining Transportation Services and Negotiated Services are set out in section 4.

2.6 Pre-conditions to the provision of Services

2.6.1 Natural Gas

Prior to entering into a Service Agreement, the Prospective User must demonstrate to Great Southern Networks' satisfaction that it has arrangements in place to ensure that:

- (a) the Prospective User is entitled to take delivery of an appropriate quantity of natural gas at the Receipt Point; and
- (b) the natural gas it wishes Great Southern Networks to transport will conform to the quality specification set out in Appendix 7, and Great Southern Networks may, during the term of a Service Agreement, require a User to provide evidence to Great Southern Networks' satisfaction that these quantity and quality assurance arrangements remain in force.

2.6.2 Compliance with Laws

If the Prospective User:

- (a) is to supply gas to any third party, including without limitation any Customer; or
- (b) proposes to connect a distribution system to the Network,

then prior to entering into a Service Agreement, the Prospective User must demonstrate to Great Southern Networks' satisfaction that it holds all necessary licences, authorities and permits and will comply with all relevant Laws.

2.6.3 Bonds

- (a) Before Transportation Services are provided to a Prospective User any Prospective User which does not meet Acceptable Credit Criteria must provide Great Southern Networks with a bond (the "Bond") as security for the Prospective User's performance of the Transportation Services Agreement. The Bond will be provided by the User:

- (1) paying to Great Southern Networks an amount which is not less than 2 months' Capacity Charges under the User's Transportation Services Agreement; or
 - (2) providing to Great Southern Networks a bank guarantee, letter of credit or other form of credit enhancement (in each case in a form and from a financial institution satisfactory to Great Southern Networks) for an amount not less than 2 months' Capacity Charges under the User's Transportation Services Agreement.
- (b) If a User has provided a Bond in accordance with section 2.6.3(a) and the User and Great Southern Networks agree to vary the User's MDQ then:
 - (1) if the MDQ has increased, the User will pay Great Southern Networks an additional amount or provide additional credit enhancement satisfactory to Great Southern Networks, so that the Bond will be for an amount not less than 2 months' Capacity Charges under the User's Transportation Services Agreement; or
 - (2) if the MDQ has decreased, Great Southern Energy will pay the User or agree to the reduction in the amount of the credit enhancement provided by the User, so that the Bond will be for an amount not less than 2 months' Capacity Charges under the User's Transportation Services Agreement.
- (c) In the event of the termination of a Transportation Services Agreement with a User, Great Southern Networks will apply the Bond to any amounts payable under the Transportation Services Agreement which the User fails to pay and will:
 - (1) if the User has provided the Bond to Great Southern Networks by paying an amount to Great Southern Networks under section 2.6.3(a)(1), pay the User the amount so paid to Great Southern Networks less amounts claimed as payable

under the Transportation Services Agreement by Great Southern Networks; and

- (2) if the User provided the Bond by providing a financial bond under section 2.6.3(a)(2), release any amount of the Bond remaining after the deduction of amounts claimed as payable by Great Southern Networks under the Transportation Services Agreement.

Neither the provision of the Bond nor any claim made on it by Great Southern Networks will prevent Great Southern Networks from claiming from the User any amount payable under a Transportation Services Agreement in circumstances where the Bond was insufficient to satisfy such amount.

- (d) The User must immediately notify Great Southern Networks of any event or occurrence which has or which is reasonably likely to have an adverse effect on its ability to meet the Acceptable Credit Criteria.
- (e) The User must at least once each Year, and following any request from Great Southern Networks, procure a review or reaffirmation of its credit rating by Moody's Investor Services Pty Limited or Standard and Poor's (Australia) Pty Limited and provide Great Southern Networks with a copy of the review of affirmation.

3 REFERENCE TARIFFS AND CHARGES

3.1 Introduction

This section contains Great Southern Networks' Reference Tariff Policy, including details of the Reference Tariffs and other charges. The Reference Tariffs and Reference Tariffs Policy comply with the Reference Tariff Principles described in section 8 of the Code and achieve the objectives set out in section 8.1 of the Code.

The Reference Tariffs have been derived using a cost of service model. The Total Revenue as calculated under section 8 of the Code is recovered if the Network achieves its target utilisation.

The calculation of the Reference Tariffs involves four main steps:

- (a) the capital and operating and maintenance costs relating to the Network assets are divided into cost pools based on defined asset groups;
- (b) Customer groups (and thus the tariff categories) are defined based on consumption levels and location;
- (c) the cost pools are allocated to the Customer groups based on each group's use of the corresponding asset group; and
- (d) the Reference Tariffs are designed to recover the target revenue allocated to that Customer group based on the forecast utilisation ie the target revenue is equal to the Reference Tariff multiplied by the forecast demand and customer growth for each year.

The remainder of this section gives an overview of the pricing principles and the Reference Tariffs. Full details of this process are contained in the associated Access Arrangement Information prepared concurrently with this Access Arrangement.

3.2 Pricing Principles

3.2.1 Code Objectives

It is a requirement that the Reference Tariffs are consistent with the requirements of the Code. The objectives of the Code are to:

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

3.2.2 Pricing Principles

The Reference Tariffs are designed to meet these Code objectives. The approach to the pricing and tariff design takes into account the following principles:

- (a) **Cost Reflectivity.** The costs of the Network assets and their operations and maintenance have as far as possible been allocated to the various Customer groups on the basis of their utilisation of those assets and the benefit received from their operation.
- (b) **Efficient Pricing Signals.** The design of the Reference Tariffs rewards Customers who can minimise their peak demand and maximise their utilisation of the Network (in the case of Volume Customers, a Volume Customer's regulator size is used as a proxy for its maximum demand).
- (c) **Fully Allocated Costs.** The Reference Tariffs are designed to recover an allocated share of average costs to Customer groups. Where assets are

used by more than one group of customers, costs are allocated using the demand of each customer group measured by MHQ.

- (d) **Price Stability.** The Reference Tariffs have been designed to allow for a smooth transition from their existing levels to tariffs which are cost reflective and efficient over the five year period of this Access Arrangement.
- (e) **Rolling forward of capital base.** The regulatory capital base from which the Reference Tariffs are derived as follows:

Regulatory capital base = Initial capital base + forecast new facilities investments - depreciation

The regulatory capital base is to be indexed by the CPI for each year of the Access Arrangement. Roll in of actual new facilities investment to the Capital base will be considered at the next review.

3.3 Reference Tariff Structure

3.3.1 Two tariffs - Contract tariff and Volume tariff

The Reference Tariff structure consists of two basic tariffs for the Transportation Services, namely:

- (a) a tariff (referred to as a "Contract Tariff") in respect of Customer who has an annual consumption of 10 TJ or greater at a single Delivery Point ("Contract Customer"); and
- (b) a tariff (referred to as a "Volume Tariff") in respect of Customer who has an annual consumption of less than 10 TJ at a single Delivery Point ("Volume Customer").

3.3.2 Contract Customers

Users must procure that each of its Contract Customers nominate to Great Southern Networks a proposed maximum daily quantity of natural gas to be delivered to their Delivery Point prior to the commencement of each Year and on that basis the User will be charged in relation to that Customer in respect of that Year:

- (a) a monthly charge equal to one twelfth of the annual per GJ rate for that MDQ (a "Capacity Charge");
- (b) a monthly metering charge to recover the specific costs of providing, maintaining and operating the Metering Facilities at their Delivery Point as well as the costs associated with remotely reading that meter on a daily basis and forwarding that data to the User, the Transmission Operator and any other person nominated by the User (a "Metering Charge"), such Metering Charge being detailed in Appendix 6;
- (c) any Overrun charges (as defined in section 6.3) where the Customer's actual MDQ exceeds its annual nomination; and
- (d) any capacity trading and other charges (as defined in this Access Arrangement).

3.3.3 Volume customers

Users must procure that each of its Volume Customers provide to Great Southern Networks the maximum hourly flow rate of the Metering Facilities which service that Customer at the time of first connection to the Network or, in the case of a Customer which is already connected to the Network, the maximum hourly flow rate of the existing Metering Facilities which service that Customer and on that basis such Customers will be charged:

- (a) a monthly fixed charge based on the nominated Metering Facilities size (which charge is designed to recover 44% of the target revenue for this Customer class); and
- (b) a monthly charge per GJ of actual gas consumption (which charge is designed to recover the remaining 56% of the target revenue for this Customer class).

3.3.4 Election to be charged Contract Tariff

Any Customer can elect to be charged the Contract Tariff provided that they agree to pay a minimum monthly charge based on an MDQ of 27.5 GJ (being 10 TJ annual consumption at a 100% load factor).

3.4 Reference Tariff Zones

- (a) The Contract Tariff will have three Zones for charging purposes to ensure that Customers only pay for those Network assets which are of benefit to them.
- (b) Those Zones, which are depicted in Appendix 8 are:
 - the Bomen zone covering all of the area served by the Network that is north of the Murrumbidgee River;
 - the Central zone covering the main area of the City of Wagga Wagga; and
 - the Fringe zone covering those Customers located on the extensions of the Network to the Kapooka and Forest Hills areas.
- (c) All Contract Customers are deemed to be connected to the medium and high-pressure mains in their Zone and thus are only allocated the capital and operating costs of those Network assets.
- (d) There are no Zones for the Volume Tariff. All Volume Customers are deemed to be connected to the low pressure part of the Network and thus all of the capital and operating costs of that part of the Network plus their share of the medium and high pressure part of the Network has been allocated to the Volume Customers.

3.5 Cost Allocation Methodology

3.5.1 Cost allocation principles

- (a) The approach taken in regard to cost allocation was to fully allocate the Target Revenue to the Customer classes based on a measure of each classes usage of the Network.
- (b) The Network assets used to provide the Service were valued on an optimised depreciated replacement cost basis.
- (c) The Network assets were then allocated into two categories, high and medium pressure assets (used by all Customers) and low pressure assets (used only by Volume Customers). The high and medium

pressure assets were further allocated into the three Zones (Bomen, Central and Fringe) on the basis of the length of pipe in each Zone.

- (d) The resulting asset groups were then allocated to Customer classes on the basis of the use made by that class. The measure of use is the peak co-incident demand (MHQ). In a small scale distribution network such as Wagga Wagga, with no ability to store material quantities of natural gas at a given point in time (ie. no material linepack or storage), the ability to meet system MHQ drives system augmentation and new investment.
- (e) This allocation of Network assets produced the replacement cost of the assets allocated to each Customer class and Zone. This replacement cost was used to allocate:
 - (1) the annual depreciation charge;
 - (2) the annual operating, maintenance and administrative costs of the business; and
 - (3) the allowed return for the business.
- (f) The use of optimised replacement cost of the assets as an allocation method is considered to remove age variations from the cost of supply and tariff calculations. This will generate a stable cost of supply for each Customer class and Zone and not one that decreases as assets age and then has a step increase when assets are replaced.
- (g) For Contract Customers the Target Revenue for each Zone was divided by the total MDQ of that Zone to establish an annual rate per GJ of MDQ.
- (h) Conceptually a large component of gas distribution tariffs should be fixed as the majority of the costs are fixed. However, the customers in the Wagga Wagga area have not paid any significant fixed charges. The Target Revenue for these Volume Customers was thus split into a 44% fixed component and a 56% variable component.

- (i) The fixed component was allocated to Customers on a Customer maximum meter flow rate basis. This results in a Customer with a Metering Facility allowing a 30 cubic metres per hour maximum flow rate paying a fixed charge three times as great as a Customer with a Metering Facility allowing 10 cubic metres per hour. All residential and many small business Customers are in the smallest class (less than 10 cubic metres per hour maximum flow rate).
- (j) The variable component was spread on the total annual consumption of natural gas of this class of Customers.

3.5.2 Cost of supply model

The cost of supply model used the estimated cost of service and revenue arising from the application of the Reference Tariffs on an annual basis over the five year period of the Access Arrangement.

The base year for financial and physical data such as customer numbers, gas volumes, maximum daily quantity and maximum hourly values was the 1997/1998 financial year.

3.5.3 Initial capital base

The Code allows that the initial capital base on which the "Service Provider" (as that term is defined in the Code) may earn a rate of return should normally be between an optimised depreciated replacement cost (ODRC) valuation and a valuation at historical cost.

The Relevant Regulator has determined that the initial capital base for Great Southern Networks at 1 January 1999 is \$28m.

3.6 Reference Tariffs

To ensure price stability, the Reference Tariffs have been designed for the smooth transition from their existing levels to cost reflective and efficient tariffs over the 5 year period of this Access Arrangement.

The percentage change in each of the 5 years is equal for the Contract Tariff. The annual fixed charge component of the Volume Tariff has been set at 44% of its ultimate amount and increases gradually to \$126 in 2003. This has been done as existing retail prices have very little fixed component. The per GJ charge of the Volume Tariff has been set to allow the total revenue for that class of Customer to be recovered annually.

The Reference Tariffs for Contract Customers and Volume Customers are contained in Appendix 3.

The Reference Tariffs for the three classes of Contract Customers are average prices only. Each current Contract Customer will be given an individual price, based on their current bundled contract rate less commodity, transmission and retail costs, and their current MDQ. Those individual prices will then transition to the Reference Tariff in the fifth year for the Zone in five steps of equal percentage weight.

3.7 Variation in Reference Tariffs

- (a) The Reference Tariffs in this Access Arrangement are expressed in real 1999 dollars and this will be the rate that will be applied from the commencement of this Access Arrangement.
- (b) In future years, the Reference Tariffs will be varied in accordance with the movements in the CPI (EX-GST) and in the manner approved by the Relevant Regulator.
- (c) In addition to the annual variation detailed in section 3.7(b) above, Great Southern Networks may vary, or the Relevant Regulator may direct to be varied, the Reference Tariffs from time to time in accordance with:
 - (1) any change in the reticulators authorisation fee paid by Great Southern Networks in respect of the Network subject to any pass through of these costs taking place at the time that the annual variation of Reference Tariffs is made; and

- (2) any change in the level of any or any new government or statutory fee or Tax subject to:
 - (i) Great Southern Networks making an application to the Relevant Regulator proposing the change; and
 - (ii) the Relevant Regulator having the discretion to appoint an independent auditor (at Great Southern Networks' expense) to ascertain the impact on Reference Tariffs before approving a change in Reference Tariffs in accordance with the independent auditor's advice,

provided that any burden or benefit of any adjustment to the Reference Tariffs which Great Southern Networks is entitled to make under this section 3.7 will be allocated on the same basis as Great Southern Networks allocated the relevant costs or similar costs to develop the Reference Tariff or in the manner prescribed by law.

3.8 Incentives in the Reference Tariff

- (a) In accordance with the principles of the Code, the Reference Tariffs provide incentives to Great Southern Networks to reduce operating and maintenance costs below the levels estimated in this Access Arrangement and to increase utilisation of the Network.
- (b) The Reference Tariff design provides an incentive for individual Customers to reduce or control their peak demand on the Network or, if they increase their annual consumption, to do so without exceeding their nominated MDQ or maximum meter flow rate, as this will reduce their delivered price of gas (or limit any increase in their delivered price of gas).

3.9 Retail Contestability

- (a) The Reference Tariffs described in section 3.6 have been prepared on the basis that there will be no additional costs for such activities as metering, meter reading, billing and settlement arising from the introduction of open access for Customers with an annual consumption of less than 10 TJ.
- (b) Great Southern Networks believe it would be appropriate for these procedures to be developed on an industry wide basis to ensure a consistent and efficient approach and to avoid duplication or over investment in billing and settlement systems.

4 ACCESS POLICY

This section contains Great Southern Networks Access Policy and the terms and conditions upon which the Transportation Services will be provided. The Access Policy sets out the manner in which Users and Prospective Users may seek access to the Network for Transportation Services and how Great Southern Networks will treat such requests.

4.1 Request for Service

4.1.1 Form and details of Request

A Prospective User, in seeking access to the Network, must firstly lodge a completed Request for Service with Great Southern Networks. A Request for Service will be in substantially the same form as the form in Appendix 4 and specify:

- (a) the proposed Delivery Points for the Transportation Service;
- (b) the characteristics of the proposed load (including the proposed AQ, MDQ, MHQ and the likely pattern of usage);
- (c) the period over which the Transportation Service is required and the proposed commencement date of the Transportation Service; and
- (d) details of the Prospective User's supplier's authorisation pursuant to Part 2 of the Gas Act, if applicable.

4.1.2 Number of active Requests

A Prospective User may not lodge with Great Southern Networks more than one active Request for Service in relation to a single tranche of Capacity for the transportation of natural gas between a particular Receipt Point and a particular Delivery Point.

4.1.3 Obligation to acknowledge receipt

Where Great Southern Networks receives a completed Request for Service, it will acknowledge receipt of the Request for Service within 5 Business Days and, within 20 Business Days, will, subject to section 4.1.4 below:

- (a) advise whether there is Capacity available to satisfy the Request for Service, and if so, at what price it is available; or
- (b) provide the Prospective User with the advice set out in section 5.2.1 below.

4.1.4 Incomplete or deficient Request

If a Request for Service is incomplete or deficient in a material way, Great Southern Networks will promptly advise the Prospective User of that fact and of the nature of the deficiency. If the Prospective User corrects the deficiency within 5 Business Days of Great Southern Networks advice, the date on which the Request for Service was first received by Great Southern Networks will continue to determine the priority of the Request for Service for queuing purposes. Otherwise the priority date for the Request for Service will be the date on which Great Southern Networks receives the completed request.

4.1.5 Charges for processing Request

Great Southern Networks will charge the Prospective User the charge set out in Appendix 6 for processing the Request for Service.

4.2 Users with existing Service Agreements

4.2.1 Grant of Options to Renew

A User seeking to purchase a Transportation Service or a Negotiated Service after the Transportation Services Agreement or Negotiated Service Agreement in respect of that Service has expired or been terminated shall be treated as a Prospective User seeking to obtain that Service, unless in the case of a Negotiated Service Agreement the terms of that Agreement include an option to renew the User's right to obtain the Service. Any such option will only grant that User with

priority in relation to the Service currently provided by Great Southern Networks under the relevant Service Agreement or such other service which does not utilise Capacity greater than that provided for under the relevant Service Agreement. A Reference Service will not include an option to renew the Transportation Services Agreement under which Great Southern Networks provides that Reference Service to a User.

4.2.2 Users Supply Tariff Customers

Notwithstanding section 4.2.1, a Service Agreement with a User which relates to the supply of natural gas to Tariff Customers may grant the User concerned rights to renew the Service Agreement or obtain Capacity in priority to other Users to the extent necessary to ensure the reasonable security of supply to the relevant Tariff Customers.

4.3 Availability of Capacity

4.3.1 Sufficient Capacity Available

Where there is sufficient Capacity available (taking into account all Users' existing Capacity Entitlements) to meet all Requests for Service from Prospective Users requesting access to that part of the Network, there will be no queue for access to that Capacity.

4.3.2 Insufficient Capacity Available

Where there is not sufficient Capacity available (taking into account all Users' existing Capacity Entitlements) on the relevant part of the Network to meet all Requests for Service of Prospective Users requesting access to that part of the Network there will be a queue for access to that Capacity in accordance with section 5.

4.3.3 Lapse of a Request for Service

Where Great Southern Networks has advised the Prospective User under section 4.1.3 that Capacity is available, then unless:

- (a) the Prospective User has entered into a Transportation Services Agreement within 20 Business Days of that advice;
 - (b) bona fide negotiations have commenced within 20 Business Days of that advice and are in progress; or
 - (c) the Prospective User has notified an Access Dispute,
- the Request for Service will be deemed to have lapsed.

4.4 User's Default

4.4.1 Form of Agreement with User's Customers

The User must enter into agreements with its Customers which includes a provision which will result in the termination of the agreement in the event of the Transportation Services Agreement with the User being terminated.

4.4.2 User Default

In the event of a default by the User which, if unremedied, would entitle Great Southern Networks to cease delivery of natural gas under that Transportation Services Agreement then:

- (a) Great Southern Networks will give notice of the default to:
 - (1) the User; and
 - (2) as soon as it is practicable to do so after Great Southern Networks gives notice of the default to the User, the User's Customers to whom supply would be interrupted if Great Southern Networks ceased delivery of natural gas to the User (together with a list of all Existing Suppliers as at the date notice is given to the User's Customers); and
 - (3) Great Southern Networks may post a notice of the default on the Market Trading System.

4.4.3 Election by User's Customers

Within 5 Business Days of receiving notice of the User's default, the Customers of the defaulting User will be required to elect whether, if the User's default leads to the termination of the Transportation Services Agreement with the User, to:

- (a) take supply from Great Southern Energy Retail in accordance with section 4.4.4;
- (b) enter into alternative supply and transportation arrangements with an Existing Supplier other than User in accordance with section 4.4.5; or
- (c) cease to take delivery supply of natural gas, or

failing such election, from the date the Transportation Services Agreement is terminated, the Customer will be deemed to have elected to take supply from Great Southern Energy Retail at its Posted Price in accordance with section 4.4.3.

4.4.4 Posted Supply Price

Great Southern Networks will ensure that:

- (a) Great Southern Energy Retail will, at all times, have a Posted Price; and
- (b) any Customer of a User whose Transportation Services Agreement is terminated and which satisfies Great Southern Energy Retail's credit criteria may elect to take supply at this price. The existence of this price shall not prevent Great Southern Energy Retail, or any other Existing Supplier offering the Customers of a User different terms for the supply of natural gas to that Customer. If a Customer of a User whose Transportation Services Agreement is terminated does not satisfy Great Southern Energy Retail's credit criteria then Great Southern Energy Retail may refuse to supply such Customer. Supply to a Customer under this section 4.4.4 will be subject to either party having the right to terminate such supply by written notice to the other party (with such termination not affecting the obligation of the Customer to pay Great Southern Energy Retail for natural gas supplied prior to the date that supply from Great Southern Energy Retail is terminated) and, unless otherwise expressly or impliedly agreed to the contrary, supply by

Great Southern Retail under this clause 4.4.4 being for a period of not more than three months.

4.4.5 Arrangements with Existing Supplier

Any supply and transportation arrangements between a Customer and an Existing Supplier will be subject to the Existing Supplier having the right under its Transportation Services Agreement to have gas delivered to the Delivery Point or Delivery Points which service the Customer and will not operate to amend any Transportation Services Agreement to which a User is a party.

5 QUEUING POLICY

This section contains Great Southern Networks' Queuing Policy. The Queuing Policy provides how the Prospective Users seeking access to Capacity will be treated where there is insufficient Capacity to satisfy their request.

5.1 Basis of Queue

- (a) If Capacity on a transportation route from the Receipt Point to a requested Delivery Point is insufficient to satisfy all Requests for Service on that route or part of that route, a queue (a "Queue") will be established to ensure that when Capacity does become available, it is made available to Prospective Users in a pre-determined manner.
- (b) Queue positions relating to a particular transportation route will be allocated to Prospective Users in accordance with section 5.2.
- (c) The Queue will include all Prospective Users with Requests for Service relating to the transportation route, including any Prospective User which has an outstanding Request for Service relating to the transportation route and which has commenced bona fide negotiations under section 4.3.3(b) or which has notified an Access Dispute under section 4.3.3(c) (a "Negotiating User"), but shall not include any Prospective User whose Request for Service has lapsed or been deemed to have lapsed under sections 4.3.3, 5.2.2 and 5.2.4(d), 5.3.3(c) or 5.4.3 or any Prospective User which has withdrawn its Request for Service under section 5.2.4(b).

5.2 Formation of Queue

5.2.1 Advice to each Prospective User

At the time the Queue is formed, or when a new Prospective User joins an existing Queue, Great Southern Networks will promptly advise each Prospective User that is in the Queue of:

- (a) the existence of the Queue and the Prospective User's position on the Queue;

- (b) the consequences of not replying to the advice in accordance with section 5.2.2;
- (c) the average Capacity sought by other Prospective Users, if any, which are ahead of that Prospective User in the Queue;
- (d) the estimated cost of the Capacity;
- (e) an estimate of when Capacity (either as Developable Capacity or by extension of the Network) may become available; or
- (f) the requirement that an engineering investigation establish how the requested services can be provided, with the cost to the Prospective User of, and timing for, any such investigation to be agreed between Great Southern Networks and the Prospective User.

5.2.2 Lapse of position in Queue

Within 15 Business Days of Great Southern Networks advice pursuant to section 5.2.1, all Prospective Users on the Queue, other than a Negotiating User, must advise Great Southern Networks that they wish to proceed with their Request for Service. If a Prospective User fails to provide confirmation as required by this section, its Request for Service will be deemed to have lapsed and its position on the Queue will be lost. Where a Queue includes a Negotiating User, then unless the Negotiating User enters into a Service Agreement or notifies Great Southern Networks of an Access Dispute within 30 Business Days from the date of formation of the Queue, its Request for Service shall be deemed to have lapsed and its position on the Queue will be lost.

5.2.3 Dissolution of Queue

Whenever adequate Capacity becomes available to meet the aggregate requirements of all Prospective Users on a Queue, that Queue shall be dissolved and the Request for Service of those Prospective Users will be dealt with under section 4.

5.2.4 Conditions applicable to a Queue

The following conditions apply to each Prospective User on a Queue:

- (a) once allocated a position on a Queue and while on a Queue, a Prospective User may reduce, but cannot increase, the requested maximum daily quantity of natural gas and capacity requirements specified in its Request for Service;
- (b) if, at any time, a Prospective User on a Queue decides that it does not wish to proceed with its Request for Service, it must withdraw its Request for Service as soon as possible by written notice to Great Southern Networks and the Prospective User's position will be vacated;
- (c) Great Southern Networks may seek confirmation from a Prospective User on a Queue that it wishes to continue with its Request for Service and Great Southern Networks will give the Prospective User 10 Business Days to respond to any such request for confirmation provided that Great Southern Networks may only do so once in any 3 month period;
- (d) if a Prospective User fails to provide confirmation when requested under section 5.2.4(c), its Request for Service will be deemed to have lapsed and its position on the Queue will be lost and;
- (e) the Prospective User may assign its position on a Queue but only to a person who is a bona fide purchaser of the business and/or of the assets associated with that position (as reasonably determined by Great Southern Networks).

5.3 Priority of Prospective Users in obtaining Services

5.3.1 Priority dates in relation to a Unique Service

Where a Prospective User is in a Queue and seeks a Unique Service, Great Southern Networks will, subject to this section 5.3, offer that Prospective User Capacity in accordance with its position in the Queue.

5.3.2 Priority dates for Common Services

Any Prospective Users in a Queue which seek a Common Service will be treated as a single Prospective User in terms of their priority and will take priority based on the date of the earliest Request for Service of a Prospective User which seeks that Common Service. That priority date will be the date for all members of the group even if the particular Prospective User whose request determined the date subsequently withdraws its request.

5.3.3 Priority within Queues

- (a) If the Queue relates to a transportation route where Capacity is available to serve the needs of one or more of the Prospective Users on the Queue, then:
 - (1) the Prospective Users on the Queue seeking a Transportation Service will rank in priority to the Prospective Users seeking a Negotiated Service and which have declined to accept an offer from Great Southern Networks of a Transportation Service; and
 - (2) if Great Southern Networks determines that Prospective Users on the Queue are seeking a Common Service, the offer of a Transportation Service will be made to all of those Prospective Users, and those which accept the offer will form one group of Prospective Users seeking a Common Service, and those which reject the offer will form a separate group seeking a Common Service.
- (b) Priority in relation to category (1) above will be assigned to Prospective Users in the order of the dates of their Requests for Service. The Request for Service which has the earliest date has the highest priority and first right to enter into a Service Agreement.
- (c) In relation to category (2), Great Southern Networks may negotiate concurrently with all Prospective Users in a group seeking a Common Service. However, only one Prospective User from that group will be

entitled to enter into a Service Agreement for the requested Service. Prior to entering into the Service Agreement, the Prospective User concerned will be required to provide Great Southern Networks with satisfactory evidence that it is the appropriate person within the group to enter into the Service Agreement. Once that member has entered into the Service Agreement, the Requests for Service of all other Prospective Users in that Common Service group will be deemed to have lapsed.

5.4 Procedure where Capacity can be made available

5.4.1 Advice from Great Southern Networks

Whenever:

- (1) a Prospective User's position on a Queue changes;
- (2) the requested maximum daily quantity of natural gas and capacity requirements sought by those ahead of the Prospective User on the Queue changes; and/or
- (3) there is a change to the timing of when a new tranche of Developable Capacity may become available,

Great Southern Networks will promptly advise the Prospective User of the changes and of their effect upon the Prospective User.

5.4.2 Offer From Great Southern Networks

As soon as practicable after making a decision that Capacity will be made available on a transportation route which is the subject of a Queue, Great Southern Networks will advise each Prospective User on the Queue of:

- (1) its decision;
- (2) its plan for making Capacity available;
- (3) the terms and conditions under which a Service is offered; and
- (4) whether the offer is an Open Offer or a Conditional Offer,

and will make an appropriate offer to the Prospective User with the highest priority on the Queue or, where the offer is contingent on more than one Prospective User accepting the offer, to those Prospective Users.

5.4.3 Open Offers

If an Open Offer to make Capacity available to a Prospective User is made, then unless the Prospective User has, within 20 Business Days of Great Southern Networks making the Open Offer to the Prospective User, either:

- (a) entered into a Service Agreement; or
- (b) notified Great Southern Networks of an Access Dispute,

the Prospective User's Request for Service will be deemed to have lapsed and its position in the Queue will be lost.

5.4.4 Conditional Offer

If a Conditional Offer to make Capacity available to a Prospective User is made, then unless the Prospective User has, within 20 Business Days of the Conditional Offer, either:

- (a) entered into a Service Agreement which may be subject to Great Southern Networks entering into Service Agreements with other Prospective Users on the Queue; or
- (b) notified Great Southern Networks of an Access Dispute,

the priority of the Prospective User's Request for Service will be altered so that the Request for Service of any Prospective User who accepts a Conditional Offer and whose Service Agreement in respect of that Conditional Offer becomes unconditional shall be deemed to take priority over the Request for Service of that Prospective User.

5.5 Compensation for holding Capacity

If the period between the date on which a Service Agreement is executed and the date on which the Prospective User requests the Service to commence is longer than 20 Business Days, Great Southern Networks may require the Prospective

User to compensate it (and the Prospective User must compensate Great Southern Networks) for holding the Contracted Capacity provided that:

- (a) compensation will not accrue or be payable in respect of the period commencing on the date on which the Service Agreement is executed and ending on the date which is 20 Business Days thereafter; and
- (b) compensation is not to exceed the amount which would have been payable by the Prospective User if the relevant Service had been provided to the Prospective User in the period during which Great Southern Networks is to hold Contracted Capacity.

6 OVERRUNS

6.1 General

- (a) A User Overrun occurs when the withdrawals by a particular User at a Delivery Point on a Day exceed the Capacity Entitlement of that User for that Delivery Point on that Day. For the purpose of applying this section 6, and determining whether a User must pay an additional charge in respect of a User Overrun and the amount of that charge, a Day will be deemed to fall entirely within the month or Year on which that Day commences.
- (b) Great Southern Networks will by 31 December 1999 notify each Contract Customer of the largest quantity it withdrew on any day from the Network in 1997 and 1998 (or if such amount is unable to be determined by Great Southern Networks, Great Southern Networks' reasonable estimate of such amounts).

6.2 Deeming Provision

The quantity of a User Overrun for a Day will be deemed to be zero if it is not possible to determine the quantity of natural gas withdrawn at the Delivery Point because of a failure or unavailability of Metering Facilities even if it is subsequently established that a User Overrun would have occurred on the basis of the quantities subsequently estimated to have been withdrawn on that Day.

6.3 Overrun Charges

6.3.1 Payment for Capacity

For any month, a User will pay Great Southern Networks for Capacity the amount, for each Delivery Point which is equal to the Capacity Payment calculated in accordance with the following formula:

$$CP = DCC \times (MDQ + OQ) \times NOD + \Sigma OP$$

where

- CP is the Capacity Payment;
- DCC is the Daily Capacity Charge for that Delivery Point in that month;
- MDQ is Maximum Daily Quantity for that Delivery Point in that month;
- OQ is Overrun Quantity for that Delivery Point in that month;
- NOD is the number of Days in that month in respect of which no Daily Overrun Payment was calculated; and
- Σ OP is the sum of all amounts calculated as a Daily Overrun Payment in that month.

6.3.2 Overrun Payments

If a User Overrun occurs, then:

- (a) on each of the first two times a User Overrun occurs in a month, for the purpose of determining the amount payable by the User for Capacity in accordance with section 6.3.1 for that Delivery Point in respect of the Day on which the User Overrun occurs, the Daily Overrun Payment shall be the amount calculated as DOP for that Delivery Point in respect of that Day on the basis of the following formula:

$$\text{DOP} = (1.5 \times \text{DCC} \times \text{WQ}) + (\text{DCC} \times \text{MDQ})$$

where:

- DOP is the Daily Overrun Payment for that Delivery Point in respect of that Day;
- DCC is the Daily Capacity Charge for that Delivery Point in that month;
- WQ is the total quantity of gas which results from subtracting the User's Capacity Entitlement at the relevant Delivery Point on

the Day the User Overrun occurs from the quantity of gas actually withdrawn by the User from the relevant Delivery Point on that Day; and

MDQ is the Maximum Daily Quantity for that Delivery Point on the Day the User Overrun occurs.

- (b) if a User Overrun occurs 3 or more times in a month, or 10 or more times in a Year, then for the purpose of determining the amount payable by the User for Capacity in accordance with section 6.3.1 in respect of that User, the Overrun Quantity, in respect of that month or each month in that Year (as the case may be), will be the largest quantity which results from subtracting the User's Capacity Entitlement for that Delivery Point on any Day on which a User Overrun occurred in that month or that Year (as the case may be) from the quantity of gas actually withdrawn by the User from that Delivery Point on that Day;
- (c) the calculation of an Overrun Quantity in relation to a User in respect of a month will not prevent the calculation of a higher Overrun Quantity in respect of that month through the application of section 6.3.2(b) at any later time; and
- (d) in the first Year after this Access Arrangement applies, a User Overrun will be deemed to have not occurred in respect of a Delivery Point on a Day if the quantity of gas withdrawn by a User from that Delivery Point on that Day is less than 110% of the User's Capacity Entitlement for that Delivery Point on that Day.

7 NATURAL GAS BALANCING

7.1 No Balancing

Great Southern Networks will not impose obligations on Users in relation to the balancing of receipts from Users at the Receipt Point or delivery of natural gas to Users at the Delivery Point. As provided for in section 12, this Access Arrangement will be reviewed in accordance with section 3.18 of the Code if:

- (a) a new Receipt Point is proposed; or
- (b) the operator of any pipeline to which the Network is connected requires Great Southern Networks to impose natural gas balancing procedures on Users of the Network.

7.2 Receipts and Withdrawals

- (a) In a small distribution network such as that at Wagga Wagga, the quantity of natural gas capable of storage in the Network at any given point in time is negligible, and thus on a daily basis (after allowance for Unaccounted for Gas), receipts and withdrawals of natural gas are always in physical balance.
- (b) Great Southern Networks will thus deem that a User's daily withdrawal of natural gas at their Delivery Points plus an allowance for Unaccounted for Gas equals their receipts of natural gas at the Receipt Point.
- (c) EAPL, the current Transmission Operator, which transports gas to the Receipt Point, does impose balancing obligations on users of its transmission system. EAPL have indicated a desire to appoint Great Southern Networks as the "shared facility operator" of the Wagga Wagga Receipt Point. As a shared facility operator, Great Southern Networks' obligations will be:
 - (1) to receive daily nominations from Users of the quantity of natural gas they wish to be delivered to their Delivery Points by Great Southern Networks (plus the amount of Unaccounted for Gas in respect of each Delivery Point) and

thus the quantities of natural gas they wish to have delivered by EAPL to the Wagga Wagga Receipt Point, and to advise those daily nominations to EAPL;

- (2) to advise EAPL on a daily basis of the actual quantities of natural gas delivered on behalf of the various Users to their Delivery Points by Great Southern Networks (plus the amount of Unaccounted for Gas in respect of each Delivery Point) and thus the actual quantities transported by EAPL to the Wagga Wagga Receipt Point by EAPL; and
- (3) to cease delivery of gas to a Delivery Point or a User if advised by EAPL that User does not have appropriate rights to have natural gas delivered to the Wagga Wagga Receipt Point by EAPL.

7.3 Unaccounted for Gas

- (a) The percentage for Unaccounted for Gas for the entire Network is, in each 12 month period following the Commencement Date, estimated to be the percentage set out in respect of that period in the following table:

Year	Unaccounted for Gas Percentage
1999	3.8%
2000	3.5%
2001	3.2%
2002	2.85%
2003	2.5%

- (b) The allowance for Unaccounted for Gas detailed in section 7.2 for delivery to Delivery Points of Contract Customers and for delivery to Delivery Points of Volume Customers will, in each 12 month period following the Commencement Date be as set out in respect of that period in the following table:

Year	Allowance for Delivery Points of Contract Customers	Allowance for Delivery Points of Volume Customers
1999	1%	7.4%
2000	1%	6.7%
2001	1%	6.0%
2002	1%	5.2%
2003	1%	4.0%

8 TRADING POLICY

8.1 Bare Transfer

A User will be entitled to make a Bare Transfer of all or part of its MDQ without Great Southern Networks' consent so long as the transferee notifies Great Southern Networks of:

- (a) the User which made the transfer or assignment;
 - (b) the amount of the MDQ which was transferred or assigned; and
 - (c) the location of the Delivery Point which is the subject of the transfer,
- prior to utilising any MDQ so transferred or assigned.

8.2 Single Zone Transfers

A User may without Great Southern Networks' consent, make a Single Zone Transfer of all or part of its Capacity Entitlement so long as the transferor and the transferee notify Great Southern Networks of:

- (a) the User which proposes to make the transfer or assignment;
- (b) the amount of the Capacity Entitlement which is to be transferred or assigned;
- (c) the location of the Delivery Points from which the relevant amount of the Capacity Entitlement is to be transferred or assigned;
- (d) the location of the Delivery Point to which the relevant amount of the Capacity Entitlement is to be transferred or assigned; and
- (e) the dates and number of Days to which the transfer or assignment is to relate,

as soon as it is practicable to do so before the transfer or assignment takes place (and in any event not later than 1 Business Day prior to the date of the proposed trade) provided that the transfer of assignment does not have the effect of obliging Great Southern Networks to deliver a quantity of gas to a Delivery Point that exceeds the Capacity of that Delivery Point.

8.3 Other Transfers

Where a User wishes to transfer or assign some or all of its Capacity Entitlement other than by way of Bare Transfer or Single Zone Transfer the User may do so with Great Southern Networks' prior written consent. Great Southern Networks will only withhold its consent or make its consent subject to conditions on reasonable commercial or technical grounds, including where:

- (a) there is not sufficient Capacity either before or as a result of the transfer or assignment to enable the amount of the Capacity Entitlement transferred or assigned to be delivered to the proposed new Delivery Point;
- (b) the effect of the transfer or assignment would be that Great Southern Energy would receive less revenue as a result of the transfer or assignment; or
- (c) the transfer or assignment would change the tariff Zone in which the Delivery Point to which the User is entitled to require Great Southern Networks to deliver natural gas is located to a Zone in respect of which a higher Capacity Charge is payable than was the case prior to the transfer or assignment occurring.

8.4 Provision of Trading Mechanisms

8.4.1 Provision of Mechanism

Great Southern Networks may if there is sufficient demand, provide a mechanism on the Market Trading System by which Users may make a transfer referred to in sections 8.1, 8.2 and 8.3 (based on a specified amount of Capacity being traded on a specified number of Days).

8.4.2 Listing of Capacity

The Market Trading System will list Capacity which a User wishes to sell or purchase on the Network, the Zone in which that Capacity is available or wanted, the period (in number of Days) when that Capacity is available and the price that the User is willing to pay (in the case of a User which wishes to purchase

Capacity) or wishes to receive (in the case of a User which wishes to sell Capacity).

8.4.3 Charge for Trade

In the case of a trade occurring, Great Southern Networks will charge the seller the administration charge provided for in Appendix 6 for that trade.

8.5 Original User Continues to Pay

A User which transfers or assigns any of its MDQ remains liable to Great Southern Networks for all charges or other amounts payable to Great Southern Networks in respect of the part of the MDQ transferred or assigned unless Great Southern Networks expressly agrees in writing that some other person will be liable for some or all of those charges or other amounts and the other person concerned has agreed to be liable to Great Southern Networks in respect of those amounts.

8.6 Change of Delivery Point

A User will be entitled to change the Delivery Point to which Great Southern Networks must deliver it natural gas with Great Southern Networks' prior written consent. Great Southern Networks may refuse its consent or make the granting of consent subject to conditions where this is technically or commercially reasonable including where:

- (a) a reduction in the User's Capacity Entitlement at the original Delivery Point will not result in a corresponding increase in Great Southern Networks' ability to provide that Service to the alternative Delivery Point; or
- (b) Great Southern Networks would not, after the change, receive at least the same amount of revenue it would have received before the change.

9 NEGOTIATED SERVICES

9.1 Negotiated Service Agreement

If a Prospective User requires either:

- (a) services other than or in addition to Transportation Services; or
- (b) terms and conditions which are different from those under a Transportation Services Agreement,

the Prospective User may negotiate with Great Southern Networks for such services and such terms and conditions as a Negotiated Service Agreement.

9.2 Dispute Resolution

If a dispute arises, unless the parties agree otherwise, it will be resolved in accordance with the dispute resolution procedures in the Code.

10 EXTENSIONS AND EXPANSIONS POLICY

10.1 Extensions

For the purpose of determining the coverage of the Access Arrangement, if Great Southern Network's Wagga Wagga natural gas distribution system Pipelines in existence as at the Commencement Date (the "Existing Network") are extended and:

- (a) the extension involves the construction of Pipelines within 1 kilometre of the Existing Network then the extension shall be treated as part of the Network and accordingly will be the subject of coverage under this Access Arrangement; or
- (b) the extension involves the construction of Pipelines greater than 1 kilometre from the Existing Network and Great Southern Networks notifies the Relevant Regulator that the extension is to be included as part of the Network, then the extension shall be treated as part of the Network and accordingly will be the subject of coverage under this Access Arrangement; or
- (c) the extension involves the construction of Pipelines not covered in sections 10.1(a) or (b), then the extension will not be treated as part of the Network; or
- (d) the extension involves the reticulation of the village of Uranquinty, then the extension will not be treated as part of the Network.

10.2 Expansions of Capacity

Any expansions of the Capacity of the Network will be treated as part of the Network and accordingly will be the subject of coverage under this Access Arrangement.

10.3 Imposition of Surcharge

- (a) Where a Customer which is to be supplied by a User is not connected to the Network, then, if the property where that Customer is to be supplied is located within 50 metres of a part of the Network which is,

in Great Southern Networks' reasonable opinion, appropriately sized to supply that Customer, Great Southern Networks will, free of charge:

- (1) construct a Pipeline from the Network to the nearest point on the Customer's property; and
 - (2) construct a service Pipeline for a maximum length of 10 metres within the Customer's property.
- (b) Where a Customer which is to be supplied by a User is not connected to the Network, then, if the property where the Customer is to be supplied is not located within 50 metres of a part of the Network which is in Great Southern Networks' reasonable opinion appropriately sized to supply that Customer, then Great Southern Networks may agree to construct a Pipeline to supply that Customer if the Customer agrees to pay Great Southern Networks a surcharge which does not exceed the capital cost of constructing the Pipeline to supply that Customer.

11 OPERATIONAL PRINCIPLES

11.1 Curtailment of Supply

11.1.1 Policy

If there is a natural gas supply failure into the Network or in a part of the Network, Great Southern Networks will initiate Load Shedding to preserve the integrity of the Network and minimise the disruption to operations at Customers' sites.

11.1.2 Procedure

Load Shedding will be done on a priority ranking basis with the aim of achieving the maximum load reduction in the shortest time possible with minimal effect to any plant and/or production processes. Consequently Load Shedding will begin with large Customers where the process is controllable and provides the required level of responsiveness. Great Southern Networks' Network Emergency Controller will form a view as to the quantity of supply of natural gas available and initiate Load Shedding to endeavour to maintain safe pressure levels.

11.1.3 Ranking and priority

Load Shedding, if required, will be implemented by Great Southern Networks according to the schedule of priorities set out in Appendix 5.

11.1.4 Isolation of Sub-Systems

If Load Shedding fails to contain the problem and the Network Emergency Controller believes system pressures will fall to an unacceptable level then parts of the Network may be isolated.

11.1.5 Reconnection

Great Southern Networks will commence reconnecting Customers when the supply failure is declared to be over. Customers will, to the extent practicable, be reconnected in reverse order to the order of disconnection. If the entire Network

has been isolated, the Network will be recommissioned in pressure tiers. The high pressure system will be commissioned first, followed by the medium pressure and then the low pressure system.

11.1.6 Notification regime

Great Southern Networks will develop and implement a system (and advise Customers and Users of the system so developed) to, as far as practicable contact Customers (and Users which supply those Customers) and to notify them:

- (a) of an interruption to their natural gas supply as a result of a problem with the delivery of natural gas; and
- (b) of their subsequent reconnection when delivery of natural gas has been restored.

All Users of the Network must participate in and comply with the process.

11.2 Connection of third party distribution systems to Great Southern Networks

11.2.1 By-pass and network augmentation

A Prospective User may, provided it has the relevant authorisation and subject to the conditions set out below, construct and operate its own pipe or system of pipes and associated equipment from any agreed point on the Network to the points where the natural gas is to be utilised.

11.2.2 Off take point

The pipe or system of pipes installed by the Prospective User which connects any pipes or other equipment to the Network pursuant to this section 11.2, shall comply with the following requirements in order to ensure that the integrity, safety and operation of the Network is not compromised:

- (a) Great Southern Networks and the Prospective User will agree to the location of the off take point on the Network;

- (b) Great Southern Networks will only withhold its agreement to a location sought by a Prospective User on the grounds of technical, operational or safety considerations;
- (c) the hot tap connection to connect the Prospective User's facilities to the Network will be performed to AS1697-1981 standard and, if applicable, AS2885-1997 standard at the User's expense;
- (d) the work will be performed either (at the Prospective User's cost) by Great Southern Networks or by a contractor approved by Great Southern Networks and engaged by the User. In the latter case, Great Southern Networks reserves the right to supervise the work; and
- (e) the Prospective User must design, install, and operate any cathodic protection system installed to protect its facilities in such a manner as to avoid any interference which may be detrimental to Great Southern Networks' facilities.

11.2.3 Equipment upstream of the Point of Delivery

Great Southern Networks will install isolation valves and metering equipment at the point of off take from the Network, upstream of the Delivery Point. Great Southern Networks will install, own and operate the facilities upstream of the Delivery Point.

11.2.4 Delivery Point

The Delivery Point will be at the outlet of the Metering Facility immediately downstream of the facilities referred to in section 11.2.2. All facilities downstream of the Delivery Point will be the responsibility of the User.

11.2.5 Load Shedding and natural gas balancing

Following the commissioning of any facilities connected to the Network the User and all users of facilities downstream of the Delivery Point will be subject to Load Shedding arrangements in relation to such facilities. The User must have facilities available to it to reduce or discontinue the withdrawal of natural gas from the Network if required to do so. If there is an agreement in relation to Load

Shedding between Great Southern Networks and the operator of the third party natural gas distribution system, the User will be subject to that agreement. Otherwise the User will be subject to the priority arrangements referred to in section 11.1.3. Any network or distribution system connected to the Network will be deemed to have a load shedding priority as set out in Appendix 5, item 2 "sites where natural gas is not used for production" unless otherwise agreed with Great Southern Networks.

11.2.6 Installation and operation

In the interests of safety and ensuring the integrity of Great Southern Networks' facilities, a person who plans to install natural gas transportation facilities in the vicinity of those owned by Great Southern Networks, will cooperate to establish, in a timely manner, appropriate arrangements and procedures for the safe installation and operation of that person's facilities and for the management of emergency situations involving the facilities of either of them.

11.2.7 Abandonment disconnection

In the event that the third party natural gas distribution system ceases to be used to take natural gas to the Delivery Point the person responsible for that natural gas distribution system at that time will ensure, at its expense, that the facilities are disconnected and isolated from Great Southern Networks' facilities. This requirement does not apply where the cessation of use is for a temporary period (not exceeding 3 months).

11.2.8 Indemnity

The person responsible for a third party natural gas distribution system connected to the Network will indemnify Great Southern Networks against any claim of liability in relation to, or arising out of, its facilities down stream of the point of connection to the Network.

11.3 Ownership of Network

11.3.1 Expansion or reinforcement of the Network

Subject to section 10, Great Southern Networks and the Prospective User may agree in a Negotiated Service Agreement that the Prospective User will contribute to the funding of any expansion or reinforcement of the Network which is required to meet the Prospective User's needs.

11.3.2 Restriction on ownership of Network

Subject to any express written agreement with Great Southern Networks, the Prospective User will not become the owner of any part of the Network upstream of the point of connection to the Network as the result of a contribution referred to in section 11.3.1.

12 REVIEW OF ACCESS ARRANGEMENT

12.1 Revision Commencement Date

The date upon which the next revisions to the Access Arrangement are intended to commence (Revision Commencement Date) is 1 January 2004. The date upon which Great Southern Networks must submit revisions to the Access Arrangement (Revisions Submission Date) is 31 December 2002. Until such time any proposed revisions to the Access Arrangement is approved by the Relevant Regulator and takes effect, the Reference Tariffs, terms and conditions set out in this Access Arrangement in respect of year 2003 will continue.

12.2 Triggers for Earlier Review

Notwithstanding 12.1, this Access Arrangement will be reviewed in accordance with section 3.17 of the Code in the event of the following circumstances.

- (a) prior to the connection to the Network of any facilities, other than at the Receipt Point, for the injection of gas into the Network;
- (b) if the operator of any Pipeline which is connected to the Network requires Great Southern Networks to impose natural gas balancing procedures on Users of the Network;
- (c) within one month of the Relevant Regulator notifying Great Southern Networks in writing of the development of a state or national policy providing for a "supplier of last resort" scheme which would apply in the event of the termination of a User's Transportation Services Agreement; or
- (d) within one month of the Relevant Regulator notifying Great Southern Networks in writing of the development of a state or national policy for the introduction of retail contestability in respect of Volume Customers

at which time Great Southern Networks will submit to the Relevant Regulator proposed revisions to this Access Arrangement with such revisions:

- (e) being, in the case of the reviews provided for in sections 12.2 (c) and (d), consistent with the specification or policies referred to in those sections; and
- (f) nominating a date upon which the revisions are intended to commence (being not more than 120 days after the date on which such revisions are submitted to the Relevant Regulator).

13 MISCELLANEOUS

13.1 Response to requests for information

13.1.1 Information concerning existing Users

- (a) Any person may, with prior written consent of a Customer, request information from Great Southern Networks in respect of the load and pattern of usage, over a specified period, of the Customer.
- (b) Great Southern Networks may verify that Customer's consent.
- (c) Great Southern Networks will respond to requests for information under section 13.1.1(a) within 25 Business Days of receipt of that request.
- (d) Great Southern Networks will charge a fee per metered site of the Customers, to recover the cost of responding to requests for information under section 13.1.1(a) (see Appendix 6 - Additional charges).

13.1.2 Information about the Network generally

A person may request information from Great Southern Networks about the Network generally and such information will be made available to the person (unless the information is Confidential Information or is information which Great Southern Networks otherwise reasonably considers to be confidential). If the information requested is contained in this Access Arrangement or in the Access Arrangement Information, it will be provided free of charge. In relation to the provision of other information, Great Southern Networks will make such information available to the person (unless the information is Confidential Information) and will charge the hourly fee specified in Appendix 6 for the time spent responding to the request.

13.2 Use of Confidential Information by Great Southern Networks

Great Southern Networks will in accordance with the terms of its Services Agreements not disclose Confidential Information concerning Users or Customers of Users unless the disclosure made by Great Southern Networks is authorised by the Service Agreement with that User, is required by Law or is for a purpose envisaged by this Access Arrangement.

APPENDIX 1 GLOSSARY

Unless the context otherwise requires, the following expressions have the following meanings when used in this Access Arrangement:

"Acceptable Credit Criteria" means, in relation to an entity, that the entity:

- (a) is resident in, or has a permanent establishment in Australia;
- (b) is not under external administration (as defined in the Corporations Law) or under a similar form of administration under any laws applicable to it in any jurisdiction;
- (c) is not immune from suit;
- (d) is capable of being sued in its own name in a court in Australia; and
- (e) maintains a credit rating of not less than:
 - (i) A-2 for short term unsecured obligations of the entity, as rated by Standard and Poor's (Australia) Pty Limited; or
 - (ii) P-2 for short term unsecured obligations for the entity, as rated by Moody's Investors Service Pty Limited.

"Access Arrangement" has the meaning given in section 1.1(a).

"Access Arrangement Information" means the information prepared by the Relevant Regulator by Great Southern Networks simultaneously with this Access Arrangement.

"Access Arrangement Period" in relation to the Access Arrangement has the meaning given in the Code.

"Access Dispute" means an access dispute notified to the Relevant Regulator under section 6.1 of the Code.

"AGL Supply Agreement" means the agreement dated 16 February 1988 (as varied by a deed dated 3 March 1995) between AGL Gas Company Limited and the Council of the City of Wagga Wagga, which was novated to Great Southern Energy Retail by a deed dated 27 June 1997.

"**AQ**" means the quantity of natural gas (in TJ or MJ per annum) which a User estimates it will require to be delivered to a Delivery Point in the relevant Year.

"**Bare Transfer**" means in respect of a User a transfer or assignment of all or part of the MDQ of a User under a Service Agreement to the extent that:

- (a) the User's obligations under the agreement remain in full force and effect after the transfer or assignment; and
- (b) the terms of the Service Agreement are not altered as a result of the transfer or assignment.

"**Bond**" means the bond posted under section 4.3.1.

"**Business Days**" means a day other than a Saturday, Sunday or a declared public holiday in New South Wales.

"**Capacity**" means at a point in time the capability of the Network or a particular section of the Network to transport natural gas between defined points, taking into account the configuration of the Network and its operational requirements, as determined by Great Southern Networks using its then current load flow model of the Network.

"**Capacity Charge**" has the meaning given in section 3.3.2(a).

"**Capacity Entitlement**" means in relation to a User and a Delivery Point of that User, the MDQ of that person in relation to that Delivery Point plus the amount, if any, of any Contracted Capacity of any other Users that has been transferred or assigned to the first mentioned User less the amount, if any, of any Contracted Capacity of the first mentioned User in relation to that Delivery Point that is transferred or assigned to another User.

"**Capacity Payment**" means the amount calculated in accordance with section 6.3.1.

"**Code**" means the National Third Party Access Code for National Gas Pipeline Systems.

"**Commencement Date**" has the meaning given in section 1.2(c).

"**Common Service**" means a service sought by more than one Prospective User where, in Great Southern Networks opinion, the characteristics (including the Delivery Point) are such that the Prospective Users are seeking the same service.

"**Conditional Offer**" means an offer made by Great Southern Networks for access to the Network where a term of the offer is that the Prospective User contribute to the upgrading or expansion of the Network.

"**Confidential Information**" has the meaning given in section 10.8 of the Code.

"**Contract Customers**" has the meaning given in section 3.3.1(a).

"**Contract Tariff**" has the meaning given in section 3.3.1(a).

"**Contracted Capacity**" means in respect of an User that part of the Capacity which has been reserved by the User or Users pursuant to a contract entered into with Great Southern Networks.

"**CPI**" means the Consumer Price Index: All Groups, index number weighted average of eight capital cities published by the Australian Bureau of Statistics from time to time and if the Australian Bureau of Statistics ceases to calculate and publish such an index then CPI will mean any index that substantially replaces that index.

"**CPI (EX-GST)**" means the Consumer Price Index: All Groups, index number weighted average of eight capital cities exclusive of the impact of the Goods & Services Tax (GST) as defined in A New Tax System (Goods and Services Tax) Act 1999, 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 such an index (exclusive of the impact of the GST as defined), then CPI (EX-GST) will mean such an index calculated and published by Commonwealth Treasury or the Reserve Bank and failing this as calculated and published by an independent person appointed by the Relevant Regulator after consultation with Great Southern Networks.

"**Customer**" means a person that uses natural gas at a Delivery Point.

"**Day**" means (unless otherwise advised by Great Southern Networks) a period of twenty-four hours beginning at 6.30 am Eastern Standard Time.

"**Daily Capacity Charge**" means in respect of a User for a month and a Delivery Point, the Capacity Charge for that User in respect of that Delivery Point in that month divided by the number of Days in the month.

"**Daily Overrun Payment**" means the amount calculated in accordance with section 6.3.2(a).

"**Delivery Point**" means the point on the Network nominated or defined in a Service Agreement at which natural gas is withdrawn from the Network by a User for use by a Customer. A Delivery Point may in certain circumstances consist of one, two or more sets of Metering Facilities servicing a particular Customer's site or premises, or servicing a third party network.

"**Developable Capacity**" means the difference between the Capacity and the Capacity which would be available if additions of plant and/or Pipeline were made, but does not include any extension of the geographic range of the Network.

"**Existing Network**" has the meaning given to it in section 10.1.

"**Existing Supplier**" means a User holding appropriate consents under section 2.6.2 which is a party to a Transportation Services Agreement.

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

"**GJ**" means giga joules.

"**Great Southern Networks**" means Great Southern Energy Gas Networks Pty Limited ACN 083 199 839.

"**Great Southern Energy Retail**" means Great Southern Energy or its nominee.

"**IPART**" means the Independent Pricing and Regulatory Tribunal of New South Wales.

"**kPa**" means kilo-pascals.

"**Load Shedding**" means a controlled interruption or reduction in natural gas supply to Customers that may be required by conditions causing shortfalls in the supply of natural gas.

"**Laws**" means all laws including statutes, regulations, licences, authorisations and codes as well as any determinations of any governmental agency under such laws applying from time to time.

"**Market Trading System**" means any electronic bulletin board operated by Great Southern Networks pursuant to which information is provided to Users and Prospective Users and on which trading of Capacity can occur.

"**MDQ**" or "**Maximum Daily Quantity**" means the maximum daily quantity of natural gas (which Great Southern Networks is required to transport and which the User may withdraw under a Service Agreement).

"**Metering Charge**" has the meaning given in section 3.3.2(b).

"**Metering Facilities**" means the meter(s) and any associated filter(s), regulator(s), or other equipment, and pipework, by which the natural gas delivered to the User is conditioned, controlled, and metered.

"**MHQ**" means the maximum hourly quantity of natural gas (which Great Southern Networks is required to transport and which the User may withdraw under a Service Agreement).

"Minimum Delivery Pressure" means:

- (a) in relation to Volume Customers, 1.5 kPa at that customer's Delivery Point; and
- (b) in relation to Contract Customers, 7.0 kPa at that customer's Delivery Point.

"**MJ**" means mega joules.

"**Negotiated Service**" means a service for the transportation of natural gas on the Network provided under a Negotiated Service Agreement.

"**Negotiated Service Agreement**" means an agreement for transportation of natural gas on terms and conditions different to those in a reference price Service Agreement.

"**Negotiating User**" has the meaning given in section 5.1(c).

"Network" means:

- (a) the Existing Network; and
- (b) any additions made to the Existing Network after the Commencement Date which fall within sections 10.1(a) or 10.1 (b).

"Open Offer" means an offer of access to the Network made by Great Southern Networks which is not a Conditional Offer.

"Overrun Quantity" means the quantity of gas withdrawn in respect of a User calculated under section 6.3.2(b).

"Pipelines" means a pipe, or system of pipes, or part of a pipe, or system of pipes, for transporting natural gas, and any tanks, reservoirs, machinery or equipment directly attached to the pipe, or system of pipes, but does not include:

- (a) anything upstream of an exit flange on a pipeline conveying natural gas from a gas processing plant;
- (b) a gathering system operated as part of an upstream producing operation;
- (c) any tanks, reservoirs, machinery or equipment used to remove or add components to or change natural gas (other than odourisation facilities) such as a gas processing plant;
- (d) anything downstream of the Delivery Point of a Customer; or
- (e) anything upstream of the Receipt Point.

"Posted Price" means the price at which Great Southern Energy Retail will charge Customers for natural gas available at a Delivery Point.

"Prospective User" means any person which submits a Request for Service (and in respect of that Request for Service includes any User which submits a Request for Service).

"Queue" has the meaning given in section 5.1.

"Queuing Policy" means a Queuing Policy as defined in the Code.

"Receipt Point" means the outlet immediately downstream of the Metering Facilities owned and operated by the Transmission Operator located at the Wagga Wagga gate station at Lot 2 Byrnes Road, Bomen.

"Reference Tariff" means the tariff which relates to a Transportation Service.

"Relevant Regulator" means Independent Pricing and Regulatory Tribunal or such other body as is provided under the Gas Pipelines Access Law.

"Request for Service" means a completed Request for Service under section 4.1.1.

"Revisions Commencement Date" means 1 January 2004.

"Service" means a Transportation Service or a Negotiated Service.

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

"Service Provider" has the meaning given to it in section 8.2 of the Code.

"Single Zone Transfer" means in respect of a Contract Customer a transfer or assignment of Capacity Entitlement between Users where the result of the trade is a change in the Delivery Point to which the Capacity Entitlement relates to another Delivery Point in the same Zone.

"Target Revenue" means the revenue to be generated from the sales (or forecast sales) of the Transportation Services over the Access Arrangement Period.

"Tariff Customer" means a person who is a "tariff customer" as defined in the Gas Act.

"Tax" means any legal requirement imposed on Users to make any deduction or withholding from any amount paid or payable by such Users under a Service Agreement or any legal requirement imposed on Great Southern Networks to make any payment, on account of a tax, duty, levy, impost or other charge or in the nature of any such thing, on, or in relation to, any amount received or receivable by it under a Services Agreement or which is payable as a result of entering into or performing a Services Agreement.

"TJ" means tera joules.

"Total Revenue" in respect of the Services has the meaning given in section 8.2 of the Code.

"**Transmission Operator**" means the operator of the transmission pipeline located upstream of the Receipt Point, currently Eastern Australia Pipelines Limited.

"**Transportation Service**" is a service for transportation of natural gas under a Transportation Services Agreement.

"**Transportation Services Agreement**" means an agreement for a natural gas Transportation Service between a User and Great Southern Networks containing the terms and conditions referred to in Appendix 2.

"**Unaccounted for Gas**" means the amount of natural gas metered as received at the Receipt Point which is not as metered as delivered at a Delivery Point, being natural gas which is lost through leakages in the Network or not accounted for due to metering errors.

"**Unique Service**" means a service sought by a Prospective User which is not a Common Service.

"**User**" means a person to whom Great Southern Networks provides a service under a Service Agreement.

"**User Overrun**" occurs when withdrawals of gas by a User at a Delivery Point exceed the User's Capacity Entitlement for the Delivery Point on that Day.

"**Volume Customers**" has the meaning given in section 3.3.1(b).

"**Volume Tariff**" has the meaning given in section 3.3.1(b).

"**Year**" means a calendar year.

"**Zone**" means a zone described in section 3.4(b).

APPENDIX 2 TRANSPORTATION SERVICES AGREEMENT

The terms and conditions upon which Transportation Services will be provided to the User by Great Southern Networks will include the following:

1. **Services**

- Great Southern Networks will provide Transportation Services to the User, being the services referred to in section 2.3.2 of the Access Arrangement.
- Great Southern Networks will not be required to commence provision of the Transportation Services unless the Delivery Points satisfy requirements in accordance with Great Southern Network's Safety and Operating Plan as required by the Gas Supply Regulation (Safety & Operating Plans) Regulation 1997. Gas delivered by the User must also meet the specifications set out in Appendix 7 of the Access Arrangement.

2. **Term**

- Great Southern Networks will provide the Transportation Services to the User for such period as the parties agree (minimum one year - maximum five years). Both Great Southern Networks and the User may terminate the provision of the services before the end of such period in certain circumstances (see paragraphs 11 and 12 below).

3. **Nomination of Daily Estimate**

- The User will be required to nominate daily the quantity of gas it anticipates it will require Great Southern Networks to transport to the Delivery Points the following Day. The User may provide Great Southern Networks with a schedule which nominates this amount for a period of time. If the User fails to nominate an amount for any particular Day, the User will be deemed to have nominated for that Day the same amount as the last amount nominated by the User for a Day.
- Great Southern Networks will notify the Transmission Operator of the amount nominated (after increasing the nominated amount to adjust for Unaccounted for Gas).

4. Transportation and Delivery of Gas

- Gas will be delivered by the User to Great Southern Networks at the Receipt Point and delivered by Great Southern Networks to the User at a Delivery Point.
- Great Southern Networks will be responsible for the gas delivered to it by the User during the period commencing on receipt of the gas at the Receipt Point and ending on delivery of the gas to the Delivery Point. The User will be responsible for the gas at all other times.
- The User will warrant that any of its equipment at the Receipt Point or the Delivery Points will be designed, constructed, used and maintained to the standard necessary to ensure that the equipment does not adversely affect the operation of the Network and will meet the requirements of applicable laws and standards (including AG601 Gas Installation Code and AG501 Code for Industrial and Commercial Gas Fired Appliances).

5. Overruns

- If the User's withdrawals on a Day exceed its Capacity Entitlement for that Day, then the User will be charged for the Transportation Services at special Overrun rates. In accordance with section 6 of the Access Arrangement, the Overrun rates are dependent upon the number of Days in a month and a Year, respectively, on which the User overruns its Capacity Entitlement.

6. Quality of Gas

- The gas delivered to the Receipt Point by the User must comply with the specifications in Appendix 7 of the Access Arrangement.
- The User will indemnify Great Southern Networks for any cost or expenses incurred by Great Southern Networks as a result of the User delivering gas which does not meet those specifications.

7. Measurement of Gas

- Great Southern Networks will install and maintain Metering Facilities at the Delivery Points to enable the measurement of the amount of gas delivered. Gas metering equipment will comply with Great Southern

Networks' safety & operating plan as required by the Gas Supply (Safety & Operating Plan) Regulation 1997.

- Great Southern Networks will take meter readings at least once each Day but may take further readings if it wishes.
 - The User will be permitted to install and maintain check metering equipment at the Delivery Points.
 - The User will ensure its Customers permit Great Southern Networks to have reasonable access to the Customers' premises for meter reading and maintenance of equipment.

8. Supply Failure and Right to Interrupt Transportation

- Great Southern Networks will notify the User and its Customers of a failure of supply in accordance with the notification regime to be developed by Great Southern Networks under section 11.1.6 of the Access Arrangement.
- In the event of a failure of gas supply to or within the Network, Great Southern Networks will implement load shedding procedures (which have previously been notified to the User and its Customers, as set out in section 11 and Appendix 5 of the Access Arrangement).
- Great Southern Networks may interrupt or reduce the Transportation Services totally or partially for any period if Great Southern Networks considers it necessary for testing or maintaining its equipment. In that event, Great Southern Networks must:
 - (a) as early as reasonably practicable, give notice to the User of its intention to interrupt or reduce the Transportation Services;
 - (b) if reasonably practicable, seek agreement with the User on the timing of the interruption or reduction (and comply with that agreement);
 - (c) use its reasonable endeavours to minimise the period of interruption or reduction.

- If Great Southern Networks considers that there is an immediate danger to person or property it may interrupt or reduce the Transportation Services without prior notice to the User.
- The User must promptly inform Great Southern Networks if it becomes aware of any events or circumstances which could adversely affect the Network or Great Southern Networks' ability to operate the Network.
- Great Southern Networks may also suspend or limit the delivery of gas in the following circumstances:
 - (a) where the User has failed to operate the Delivery Point in accordance with the Transportation Services Agreement, the Code and good pipeline industry practice and the User has not rectified such default within 10 Business Days of being notified of the default by Great Southern Networks;
 - (b) immediately in an emergency;
 - (c) immediately if in Great Southern Networks' reasonable opinion there is a significant risk to person or property;
 - (d) immediately if in Great Southern Networks' reasonable opinion non-compliance with any law by the User could constitute non-compliance of a law by Great Southern Networks;
 - (e) immediately if the User exceeds its Capacity Entitlement or MDQ in any one Day,and will not incur any liability to the User as a result of suspending or limiting the delivery of gas for any of the above reasons in good faith.

9. Assignment and Trading of Capacity

- The User will be entitled to transfer all or part of its Capacity Entitlement to other users of the Network in accordance with the procedures set out in section 8 of the Access Arrangement.

10. Charges, Invoicing and Payment

- The User will pay to Great Southern Networks each month the Capacity Payment, Metering Charge and other miscellaneous charges (as specified in Appendix 6 of the Access Arrangement) which relate to the Transportation Services provided to the User by Great Southern Networks in the previous month. These charges will be varied to reflect any changes in the charges as a result of a future review of the Access Arrangement.
- Great Southern Networks will invoice the User on or before the 10th Business Day of each month and the User will pay to Great Southern Networks the amount stated in the invoice by the 15th Business Day of that month. If the User fails to pay the invoice by that date, interest on the outstanding amount will be payable by the User.
- If an overcharge occurs in any month, Great Southern Networks will refund the amount overcharged to the User.
- If an undercharge occurs in any month, the User will pay to Great Southern Networks the amount of the undercharge.

11. Rights of Access

- The User must ensure that agreements which it enters into with Customers require the Customer to grant at the User's or Great Southern Networks' request access to its land or premises where Great Southern Networks requires that access for metering, monitoring, operational or safety reasons.
- The User undertakes to enforce these provisions at Great Southern Networks' request to enable Great Southern Networks to gain such access.

12. Termination

- If one or more of the following events of default occur, then the party which is not in default may terminate the provision of the Transportation Services by Great Southern Networks by notice in writing to the defaulting party, namely:
 - (a) if the defaulting party defaults in payment of any moneys payable under these terms for a period of 10 Business Days or more;
 - (b) if the defaulting party defaults in the performance of any of the other obligations imposed upon it by these terms and fails to remedy or remove the cause of causes of default within a period of 20 Business Days from the receipt of a notice from the other to remedy or remove the cause of causes of default;
 - (c) if a resolution is passed or an order is made by a Court for the winding up of the defaulting party except for the purposes of reconstruction or amalgamation;
 - (d) if the defaulting party is unable to pay its debts as and when they fall due or is placed in liquidation;
 - (e) if the defaulting party makes or enters into or endeavours to make or enter into any composition, assignment or other arrangement with or for the benefit of either party's creditors;
or
 - (f) if Great Southern Networks ceases to be engaged in the delivery of gas.

13. Force Majeure

- If either Great Southern Networks or the User fail to meet any of their respective obligations due to the occurrence of an event or circumstance of force majeure, that failure will not give rise to any liability or cause of action.
- In the event of force majeure of such magnitude or duration that it is unlikely that Great Southern Networks will be able to continue to provide the Transportation Services, either Great Southern Networks or the User may terminate the provision of the services upon 10 Business Days notice.

14. Liabilities and Indemnities

- Subject to any laws to the contrary, Great Southern Networks will not be liable to the User for:
 - (a) momentary fluctuations in the amount of gas delivered to the User;
 - (b) any failure to deliver gas due to any failure of a user of the Network (including the User);
 - (c) any failure to transport caused by no or a reduction in the amount of gas in the Network; or
 - (d) any failure to deliver gas caused by any defect or abnormal conditions in the User's equipment.
- If Great Southern Networks is liable for any matter other than those listed above, its liability to the User will only be for direct loss or damage and will be limited to an amount specified in the Transportation Services Agreement.
- The User indemnifies Great Southern Networks for any damage or loss Great Southern Networks suffers as a result of the provision of the Transportation Services or by any breach of the User and for any damage or loss suffered by any other person as a result of the User's breach. The User will not be liable for any failure by the User which is

caused by Great Southern Networks' failure to provide the Transportation Services or caused by any defect or abnormal conditions in the Network.

15. Dispute Resolution

- Great Southern Networks and the User must each use their best endeavours to resolve any disputes which arise under the agreement (and which are not subject to section 6 of the Code) in relation to the provision of the Transportation Services. If the dispute cannot be resolved, either Great Southern Networks or the User may refer the dispute to an expert for determination.
- If the dispute is referred to an expert, Great Southern Networks and the User will provide the expert with any information he or she needs in order to determine the dispute.
- If an agreement cannot be reached as to sharing of costs between Great Southern Networks and the User, the expert will decide.
- The determination of the expert will be binding on Great Southern Networks and the User, however, neither Great Southern Networks nor the User may bring court proceedings (apart from interlocutory or injunctive proceedings) until the matter has been referred to an expert and a determination made.

APPENDIX 3 CONTRACT AND VOLUME REFERENCE TARIFFS

Contract Customers			1999	2000	2001	2002	2003
		\$/s/GJ of MDQ per Year					
Bomen Contract Customers			\$169.15	\$130.46	\$102.08	\$81.12	\$65.60
Central Contract Customers			\$682.76	\$509.98	\$381.17	\$285.11	\$213.40
Fringe Contract Customers			\$450.22	\$445.56	\$441.64	\$438.34	\$435.70
Volume Customers	max Meter Flow Rate (m³/hr)		1999	2000	2001	2002	2003
Large Industrial Customers	150	Annual Charge	\$378	\$756	\$1,134	\$1,512	\$1,890
		\$/s/GJ	\$4.06	\$3.85	\$3.63	\$3.42	\$3.21
Industrial Customers	85	Annual Charge	\$214	\$428	\$643	\$857	\$1,071
		\$/s/GJ	\$5.59	\$4.97	\$4.36	\$3.78	\$3.21
Commercial Customers	30	Annual Charge	\$76	\$151	\$227	\$302	\$378
		\$/s/GJ	\$6.09	\$5.34	\$4.60	\$3.89	\$3.21
Residential & Small Business	10	Annual Charge	\$51	\$70	\$88	\$107	\$126
		\$/s/GJ	\$4.70	\$4.32	\$3.95	\$3.58	\$3.21

These prices are in 1999 dollars. Until such time any proposed revisions to the Access Arrangement is approved and takes effect, the Reference Tariffs, terms and conditions set out under this Access Arrangement in respect of the year 2003 will continue.

APPENDIX 4 REQUEST FOR SERVICE

To: Great Southern Energy Gas Networks Pty Limited

[insert address]

1. [Insert name of proposed user] requests you to provide the following Transportation Services, namely:

[insert details]

2. As required by our Access Arrangements, we provide the following details in relation to this Request for Service, namely:

- (a) the proposed Delivery Points for the Transportation Services are:

[insert details]

- (b) the characteristics of the proposed load as at the proposed commencement date are:

AQ:

MDQ:

MHQ:

Required delivery pressure:

- (c) if known, forecast of expected changes of MHQ over the 5 years following the commencement date:

[insert details].

- (d) the proposed commencement date and end date of the Transportation Services are:

[insert details]

Signed by the Prospective User

.....

Dated:

APPENDIX 5 LOAD SHEDDING PRIORITIES

Load Shedding Priority	Load Type
1	Interruptible Loads.
2	Sites where natural gas is not used for production.
3	Sites where load is transferable to an alternative fuel.
4	Load that may be reduced without damage to product or plant.
5	Load that may be halted without damage to product or plant.
6	Load where halting may cause product damage.
7	Load where halting may cause plant damage.
8	Load not transferable to alternative fuel at hospitals and essential service sites.
9	Other sites.

APPENDIX 6 OTHER CHARGES

1. Metering Charges

Metering Charges for Contract Customers will be specific to the Metering Facilities at the Delivery Point at which gas is delivered to that Customer. The Metering Charges for all persons which are Contract Customers as at the date the Access Arrangement is established are set out in Table 1.

Table 1 Contract Customers - Metering Charges

Meter Installation Capital Cost

Basic pipework - including axial flow regulators	\$15,350.00
Inline volume correction unit	\$4,600.00
Telemetry (mobile phone, solar panel or mains supply)	\$7,000.00
Total	\$26,950.00

Meter Capital Cost

Meter Type	Cost	Installation	Total	Annual Cost (7.75%, 15 years)
6GT	\$6,000.00	\$26,950.00	\$32,950.00	\$3,791.00
4GT	\$5,025.00	\$26,950.00	\$31,975.00	\$3,679.00
AL5000	\$7,675.00	\$26,950.00	\$34,625.00	\$3,984.00
AL2300	\$5,650.00	\$26,950.00	\$32,600.00	\$3,751.00
AL1000	\$1,590.00	\$26,950.00	\$28,540.00	\$3,284.00
7M175	\$1,010.00	\$26,950.00	\$28,760.00	\$3,309.00
5M175	\$1,270.00	\$26,950.00	\$28,220.00	\$3,247.00
3M175	\$3,000.00	\$26,950.00	\$29,950.00	\$3,446.00

Meter Annual Cost

Meter Type	Capital Charge	O&M Cost	Electronic Reading	Total
6GT	\$3,791.00	\$1,648.00	\$350.00	\$5,789.00
4GT	\$3,679.00	\$1,599.00	\$350.00	\$5,628.00
AL5000	\$3,984.00	\$1,731.00	\$350.00	\$6,065.00
AL2300	\$3,751.00	\$1,630.00	\$350.00	\$5,731.00
AL1000	\$3,284.00	\$1,427.00	\$350.00	\$5,061.00
7M175	\$3,309.00	\$1,438.00	\$350.00	\$5,097.00
5M175	\$3,247.00	\$1,111.00	\$350.00	\$5,008.00
3M175	\$3,446.00	\$1,498.00	\$350.00	\$5,294.00

For any new Contract Customers, the charge will be set to recover:

- (a) the capital cost of the Metering Facilities over a 15 year period as well as an allowance for a reasonable return to Great Southern Networks;
- (b) continuing operations, maintenance and testing costs set at 5% of the capital cost of the Metering Facilities;
- (c) the cost of electronic reading of the Metering Facilities and data forwarding which will be charged at \$350 per year (subject to any increase under section 3.7).

2. Charges for processing Capacity Transfers

\$100 (subject to any increase under section 3.7)

3. Charges for processing Requests for Services

\$50 (subject to any increase under section 3.7)

4. Additional charges

Connection Fee	\$35
Meter Test Fee	\$50 (or such other fee as is prescribed by law)
Special Meter Reading Fee	\$30 (or such other fee as is prescribed by law)
Disconnection Fee	\$30
Request for information concerning existing Users	\$50 plus \$50 per hour after the first hour

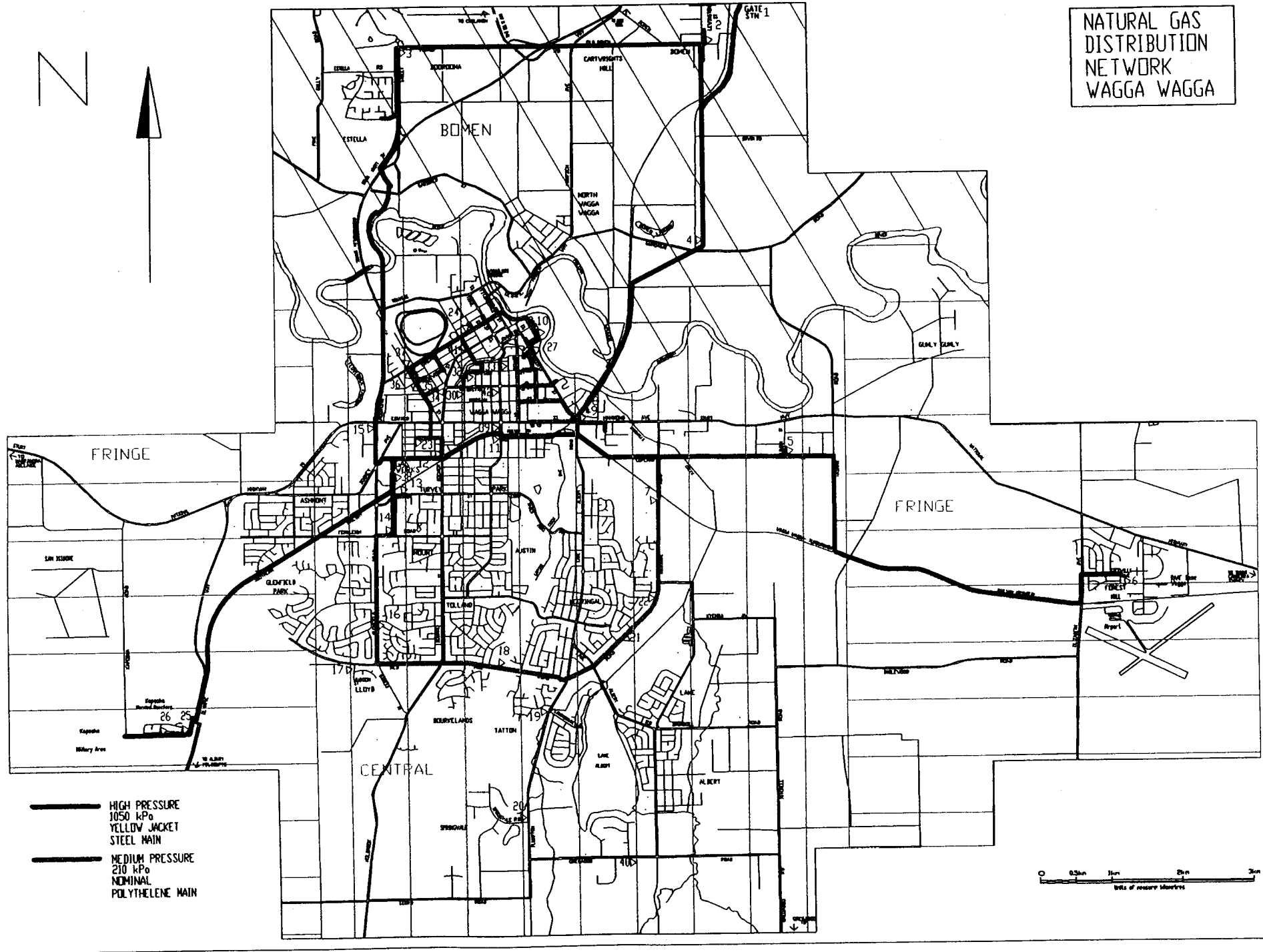
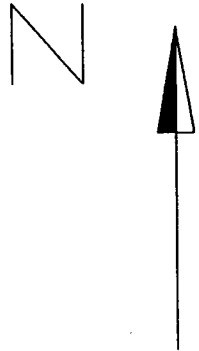
APPENDIX 7 DEFAULT SPECIFICATIONS

The gas delivered to the Receipt Point by a User must comply with the specifications prescribed by any Laws that extend to that gas. If there are no such Laws, the gas must comply with specifications determined by Great Southern Networks from time to time, or failing such determination the specifications in the following table (the "default specifications") will apply.

Parameter	Minimum Value	Maximum Value (Continuous)
Heating Value (daily Average)	37.45MJ/m ³	Determined by other parameters
Wobbe Index	47.4	51.1
Water Dewpoint	-	0Ec at 6895 kPa
Hydrocarbon Dewpoint	-	10Ec at 3500 kPa
Carbon Dioxide	-	3.0% V/V
Oxygen	-	0.1% V/V
Total Sulphur	-	23 mg/m ³
Mercaptan Sulphur	-	4.6 mg/m ³
Hydrogen Sulphide	-	5.7 mg/m ³
Solid Particulate and Liquids	-	Nil

APPENDIX 8 WAGGA WAGGA ZONES FOR CONTRACT CUSTOMER TARIFF PURPOSES

NATURAL GAS
DISTRIBUTION
NETWORK
WAGGA WAGGA



——— HIGH PRESSURE
 1050 kPa
 YELLOW JACKET
 STEEL MAIN

 ——— MEDIUM PRESSURE
 210 kPa
 NOMINAL
 POLYTHELENE MAIN

0 0.5km 1km 2km 3km
 Scale of reserve meters

ACCESS ARRANGEMENT INFORMATION

FOR

**GREAT SOUTHERN ENERGY
GAS NETWORKS PTY LIMITED**

**NATURAL GAS DISTRIBUTION SYSTEM
IN WAGGA WAGGA**

*Drafted and Approved by
the Independent Pricing and Regulatory Tribunal of NSW
under Section 2.20(a) of the National Third Party Access Code for
Natural Gas Pipeline Systems*

**INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES**

ACCESS ARRANGEMENT INFORMATION

FOR

**GREAT SOUTHERN ENERGY
GAS NETWORKS PTY LIMITED**

**NATURAL GAS DISTRIBUTION SYSTEM
IN WAGGA WAGGA**

*Drafted and Approved by
the Independent Pricing and Regulatory Tribunal of NSW
under Section 2.20(a) of the National Third Party Access Code for
Natural Gas Pipeline Systems*

TABLE OF CONTENTS

1	INTRODUCTION	1
2	ACCESS AND PRICING PRINCIPLES	2
2.1	Tariff determination methodology	2
2.2	Referent tariffs structure	4
2.3	Cost allocation approach	4
2.4	Reference tariffs	6
2.5	Other revenue	8
2.6	Incentives structure	8
3	CAPITAL COSTS	9
3.1	Asset values and initial capital base	9
3.1.1	Depreciated actual costs (section 8.10(a))	9
3.1.2	Depreciated optimised replacement cost (section 8.10(b))	10
3.1.3	Application of other well recognised asset valuation methodology (section 8.10(c))	11
3.1.4	Advantages and disadvantages of alternative asset valuation methodology (section 8.10(d))	13
3.1.5	Other considerations required by the Code	15
3.1.6	Initial capital base	18
3.1.7	Rolling forward the capital base	18
3.2	Rates of return	18
3.2.1	Establishing a WACC range	19
3.2.2	Risk assessment of GSN	20
3.2.3	Rate of return for GSN	21
3.3	Depreciation	21
3.3.1	Assumptions on economic life of assets for depreciation	21
3.3.2	Forecast depreciation	22
3.4	Capital expenditure forecasts	23
4	OPERATIONS AND MAINTENANCE COSTS	24
5	OVERHEADS & MARKETING COSTS	25
5.1	Corporate overheads	25
5.2	Marketing	25
6	SYSTEM CAPABILITIES AND VOLUME ASSUMPTIONS	26
6.1	Network description	26
6.2	Network operation principles	26
6.3	Network capacity	27
6.4	Growth assumptions	29
7	KEY PERFORMANCE INDICATORS	30
ATTACHMENT 1	FIVE YEAR FINANCIAL SUMMARY	31
ATTACHMENT 2	SALES GROWTH	32
ATTACHMENT 3	ALLOCATION OF COSTS	33
ATTACHMENT 4	FIVE YEAR CAPITAL EXPENDITURE FORECAST	34
ATTACHMENT 5	FIVE YEAR OPERATING COSTS	35
ATTACHMENT 6	MAP OF WAGGA WAGGA NETWORK	37

1 INTRODUCTION

This Access Arrangement Information for Great Southern Energy Gas Networks Pty Limited's ACN 083 199 839 (GSN) is prepared by the Independent Pricing and Regulatory Tribunal of NSW (the Tribunal) for access to GSN's natural gas distribution system in Wagga Wagga, NSW. It should be read in conjunction with the Access Arrangement for GSN.¹

This Access Arrangement Information for GSN is prepared based on the Tribunal's final decision on GSN's Access Arrangement and the following documents submitted by GSN since the commencement of the access review in March 1998.

- Proposed Access Arrangement Information submitted by GSN on 24 March 1998.
- Revised Access Arrangement Information submitted by GSN on 31 March 1999.
- Revised Access Arrangement Information submitted by GSN on 25 May 1999
- Other submissions by GSN and interested parties.

This Access Arrangement Information for GSN contains information as in the opinion of the Tribunal would enable Users and Prospective Users to understand the derivation of the elements of the Access Arrangement for GSN and to form an opinion as to compliance of the Access Arrangement for GSN with the provisions of the National Third Party Access Code for Natural Gas Pipeline Systems (Code). The information is presented under the following sections:

Section 2	-	Access and pricing principles
Section 3	-	Capital costs
Section 4	-	Operations and maintenance costs
Section 5	-	Overheads & marketing costs
Section 6	-	System capacity & volume assumptions
Section 7	-	Key performance indicators

Further detailed information is provided in the following appendices:

Attachment 1	-	Five year financial summary
Attachment 2	-	Sales growth
Attachment 3	-	Allocation of costs
Attachment 4	-	Five year capital expenditure forecast
Attachment 5	-	Five year operating costs
Attachment 6	-	Map of the Wagga Wagga Network

Unless stated otherwise, words and terms in this Access Arrangement Information for GSN have the same meaning set out in the Glossary in Appendix 1 of the Access Arrangement for GSN.

¹ Under section 2.20 of the Code, if the service provider does not submit a revised Access Arrangement by the date specified by the Relevant Regulator under section 2.16(b) or submits a revised Access Arrangement which the Relevant Regulator is not satisfied incorporates the amendments specified by the Relevant Regulator in its final decision, the Relevant Regulator must, in the case of an Access Arrangement submitted under section 2.2, draft and approve its own Access Arrangement, instead of the Access Arrangement proposed by the Service Provider.

2 ACCESS AND PRICING PRINCIPLES

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

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

To the extent that any of these objectives conflict in their application with a particular Reference Tariff determination, the Relevant Regulator may determine the manner in which they can be reconciled or whether a particular objective should prevail.

Factors about which the regulator must be satisfied in determining to approve a reference tariff and reference tariff policy are set out in section 8.2 of the Code:

- (a) the revenue to be generated from the sales (or forecast sales) of all Services over the Access Arrangement Period (the **Total Revenue**) should be established consistently with the principles and according to one of the methodologies contained in section 8;
- (b) to the extent that the Covered Pipeline is used to provide a number of Services, that portion of Total Revenue that a Reference Tariff is designed to recover (which may be based upon forecasts) is calculated consistently with the principles contained in this section 8;
- (c) a Reference Tariff (which may be based upon forecasts) is designed so that the portion of Total Revenue to be recovered from a Reference Service (referred to in paragraph b) is recovered from the Users of that Reference Service consistently with the principles contained in this section 8;
- (d) incentive Mechanisms are incorporated into the Reference Tariff Policy wherever the Relevant Regulator considers appropriate and such Incentive Mechanisms are consistent with the principles contained in this section 9; and
- (e) any forecasts required in setting the Reference Tariff represent best estimates arrived at on a reasonable basis.

These matters are addressed during the review of GSN's Access Arrangement and the drafting by the Tribunal of the Access Arrangement for GSN. The reference tariffs in the Access Arrangement for GSN are designed to meet the objectives of the Code.

2.1 Tariff determination methodology

The reference tariffs in the Access Arrangement for GSN have been derived using a cost of service model. The total revenue is calculated under section 8 of the Code. GSN is expected to recover the cost of services if its network achieves its target utilisation.

The services provided in the Access Arrangement for GSN are:

- Transportation services.
- Other negotiated services as may be agreed in any negotiated service agreement with the user or prospective user.

The determination of the reference tariffs for the transportation services involves the following 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 (and thus the tariff categories) are defined based on consumption levels and location.
- The cost pools are allocated to the Customer classes based on each group's use of the corresponding asset group.
- The reference tariffs are designed to cover the target revenue allocated to that customer group based on the forecast utilisation, ie target revenue equals the reference tariffs multiplied by the forecast demand and growth for each year.

The costs of providing transportation services are to be recovered through reference tariffs for contract and volume customers. The structure of the reference tariffs and the cost allocation approach are described in section 2.2 and 2.3 respectively.

Reference tariffs in each year of the Access Arrangement for GSN are determined from the total revenue. The total revenue is determined by the Tribunal based on the following approach:

- Calculating the costs of providing services over the Access Arrangement period based on its final decision on rate of return, initial capital base, depreciation, forecast facilities investments, non-capital costs and rolling forward of the capital base.
- The cost of service is calculated as the sum of:
 - a return on the capital base
 - depreciation of the capital base
 - non-capital costs.
- The total revenue is smoothed to achieve price stability and financial stability to GSN.

The smoothed revenue path is determined based on the forecast total cost of services and after considering the impacts on customers and financial impacts on GSN². Total revenue in the last year of the Access Arrangement for GSN (year 2003) is expected to be equal to the forecast cost of services in 2003. The components of the forecast total costs of providing transportation services and the smoothed total revenue in the first year and in subsequent years of the Access for GSN are set out in Attachment 1.

² The Tribunal has modelled financial projections and considered the financial indicators in the review process.

2.2 Referent tariffs structure

The Reference Tariff structure consists of two basic tariffs for the Transportation Services, namely:

- A tariff (referred to as a "Contract Tariff") in respect of Customers who have an annual consumption of 10 TJ or greater at a single Delivery Point ("Contract Customers").
- A tariff (referred to as a "Volume Tariff") in respect of Customers who have an annual consumption of less than 10 TJ at a single Delivery Point ("Volume Customers").
- Users must provide to GSN, in respect of each of their Contract Customers, a proposed maximum daily quantity of natural gas to be delivered to the Delivery Point or Delivery Point serving that Contract Customer prior to the commencement of each Year and on that basis such Customers will be charged in respect of that Year:
- A monthly charge equal to one twelfth of the annual per GJ rate for that MDQ.
- A monthly metering charge to recover the specific costs of providing, maintaining, operating the Metering Facilities installed at their Delivery Point as well as the costs associated with remotely reading that meter on a daily basis and forwarding that data to the User, the Transmission Operator and any other person nominated by the User (a "Metering Charge").
- Any Overrun charges (as defined in section 6.3 of the Access Arrangement) for GSN where the User's actual MDQ exceeds its annual nomination.
- Any capacity trading and other charges (as defined in the Access Arrangement) for GSN

Users must provide to GSN, in respect of each of their Volume Customers, the maximum hourly flow rate of the Metering Facilities which service that Customer at the time that Customer is first connected to the Network or, in the case of a Customer which is already connected to the Network, the maximum hourly flow rate of the existing Metering Facilities which service that Customer and on that basis such Customers will be charged:

- A monthly fixed charge based on the nominated Metering Facilities size. This charge is designed to recover 44 per cent of the target revenue for the relevant Customer class.
- A monthly charge per GJ of actual gas consumption. This charge is designed to recover the remaining 56 per cent of the target revenue for the relevant Customer class.

Any Customer can elect to be charged the Contract Tariff provided that they agree to pay a minimum monthly charge based on an MDQ of 27.5 GJ (10 TJ annual consumption at a 100 per cent load factor).

2.3 Cost allocation approach

The approach taken in regard to cost allocation was to fully allocate the Target Revenue to classes of Volume Customers and Contract Customers based on a measure of their usage of the Network.

The Network assets used to provide the Service were valued on an optimised replacement cost (ORC) and depreciated optimised replacement cost (DORC) basis.

The Network assets (ie the pipes, regulators, meters and services etc) were allocated into two categories, high and medium pressure assets (used by all Customers) and low pressure

assets (used only by Volume Customers). The high and medium pressure assets were further allocated into the three Zones (Bomen, Central and Fringe) on the basis of the length of pipe in each Zone.

The resulting asset groups were then allocated to classes of Volume Customers and Contract Customers on the basis of the use made by that class. The measure of use is the peak coincident demand (MHQ). In a small scale distribution network such as Wagga Wagga, with no linepack or storage, the ability to meet system MHQ drives system augmentation and new investment.

This allocation of network assets produced the optimised replacement cost of the assets allocated to classes of volume customers, contract customers and zone. Assets relating to volume customers were adjusted in accordance with the Tribunal's decision on initial capital base (see section 3.1).

The adjusted ORC is allocated into customer classes as follows:

Bomen contract zone	\$1.85m (4.5%)
Central contract zone	\$0.66m (1.6%)
Fringe contract zone	\$2.56m (6.3%)
Volume customers	\$35.74m (87.6%)
Total	\$40.81m

The adjusted optimised replacement cost was used to allocate:

- the annual depreciation charge
- the annual operating, maintenance and administrative costs of the business
- the allowed return for the business.

The use of an undepreciated value of the assets as an allocation method is considered to remove age variations from the cost of supply and tariff calculations. This will generate a stable cost of supply for each Customer class and Zone and not one that decreases as assets age and then has a step increase when assets are replaced.

For Contract Customers, the Target Revenue for each Zone was divided by the total MDQ of that Zone to establish an annual rate per GJ of MDQ.

Conceptually all gas distribution tariffs should be fixed as the costs are fixed and all equivalent users have an equal capacity to utilise the Network. However, historically customers in Wagga Wagga have not paid any significant fixed charges. The Target Revenue for these Volume Customers was thus split into a 44 per cent fixed component and a 56 per cent variable component.

The fixed component was allocated to Customers on a Customer maximum meter flow rate basis. This results in a Customer which has a Metering Facility with a 30 cubic metres per hour maximum flow rate paying a fixed charge three times as great as a Customer with a Metering Facility with a flow rate of 10 cubic metres per hour. All residential and many small business Customers are in the smallest class (less than 10 cubic metres per hour maximum flow rate).

The variable component was spread on the total annual consumption of the relevant class of Customers.

The cost of supply was based on a typical year using actual and estimated quantities, Customer numbers and system MDQ and MHQ values from both the 1996/97 and 1997/98 years. The typical year approach was used because:

- Sales are relatively static and have been in the range of 1.5 to 1.6 PJ for the last four years.
- Future growth rates are expected to be zero for Contract Customers and 1 per cent per annum for Volume Customers.

Attachment 2 details current and anticipated customer numbers and annual sales volumes. The anticipated growth will not have a material impact on the Network MDQ and MHQ levels. Attachment 3 details the allocation of costs to customer classes and zones.

2.4 Reference tariffs

To ensure price stability, the reference tariffs have been designed to transition smoothly from their existing levels (as determined by the network component of existing fully bundled retail prices in 1997/98) to cost reflective tariffs over the period of this Access Arrangement.

Reference tariffs for each year over the Access Arrangement for GSN are pre-determined prices expressed in real 1999 dollars. GSN's cost of supply model has been used in this process using forecast growth assumptions and total revenue. Reference tariffs will be indexed by an inflation index applicable to each of the subsequent year.

The annual charge component of the Volume Tariff for residential and small business customers has been set at \$51 in the first year of the Access Arrangement for GSN, rising to \$126 in the fifth year of the Access Arrangement for GSN.

The reference tariffs for Contract and Volume Customers are contained in the following table.

Table 2.1 Reference Tariffs (Real 1999 Dollars)

			1999	2000	2001	2002	2003
Contract customers			\$/s/GJ of MDQ per Year				
Bomen Contract Customers			169.15	130.46	102.08	81.12	65.60
Central Contract Customers			682.76	509.98	381.17	285.11	213.40
Fringe Contract Customers			450.22	445.56	441.64	438.34	435.70
Volume customers							
max Meter Flow Rate (m³/hr)							
Large Industrial Customers	150	Annual Charge	378	756	1,134	1,512	1,890
		\$/GJ	4.06	3.85	3.63	3.42	3.21
Industrial Customers	85	Annual Charge	214	428	643	857	1,071
		\$/GJ	5.59	4.97	4.36	3.78	3.21
Commercial Customers	30	Annual Charge	76	151	227	302	378
		\$/GJ	6.09	5.34	4.60	3.89	3.21
Residential & Small Business	10	Annual Charge	51	70	88	107	126
		\$/GJ	4.70	4.32	3.95	3.58	3.21

The Reference Tariffs for the three classes of Contract Customers are average prices only. Each Contract Customer will be given an individual price based on their current bundled contract rate less commodity, transmission and retail costs and their current MDQ. Those individual prices will then transition to the year five Reference Tariff for the Zone in five steps of equal percentage weight. New Contract Customers will pay the *average Reference Tariff* for their Zone shown in Table 2.1.

The range of implied current contract prices in each Zone in 1999 is:

- Bomen Zone - between \$78.60/MDQ pa and \$262.50/MDQ pa (weighted average \$169.50/MDQ pa).
- Central Zone - between \$539.30/MDQ pa and \$761.60/MDQ pa (weighted average \$682.76/MDQ pa).
- Fringe Zone - between \$380.60/MDQ pa and \$562.10/MDQ pa (weighted average \$450.22/MDQ pa).

These Reference Tariffs have been prepared on the basis that there will be no additional costs for such activities as metering, meter reading, billing and settlement arising from the introduction of open access for Customers with an annual consumption of less than 10 TJ.

The Tribunal considers that the introduction of a Goods and Services Tax (GST) may have an impact on reference tariffs. The access arrangements provides for the adjustment of tariffs to pass through the specific impact of tax changes such as the GST and associated tax changes. In order to avoid double-counting of the impact of the GST, the index used in the Access Arrangement for GSN to vary reference tariffs is in the following form:

“CPI (EX-GST)” means the Consumer Price Index: All Groups, index number weighted average of eight capital cities exclusive of the impact of the Goods & Services Tax (GST) as

defined in A New Tax System (Goods and Services Tax) Act 1999, 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 such an index (exclusive of the impact of the GST as defined), then CPI (EX-GST) will mean such an index calculated and published by Commonwealth Treasury or the Reserve Bank and failing this as calculated and published by an independent person appointed by the Relevant Regulator after consultation with Great Southern Networks.

2.5 Other revenue

The Reference Tariffs have been designed to recover the Total Revenue if the Network achieves the planned utilisation. No allowance has been made for other revenue that may accrue from overrun charges, trading charges or other miscellaneous revenue as they are not considered material.

2.6 Incentives structure

In accordance with the principles of the Code:

- Reference tariffs should be based on the efficient cost (or anticipated efficient cost) of providing the reference services.
- Reference tariffs should be designed to provide a market-based incentive to improve efficiency and to promote efficient growth of the gas market. Tariffs are to be designed to provide the service provider with the ability to earn greater profits (or smaller profits) between reviews than anticipated, if it outperforms (or under-performs) against the benchmarks adopted in setting the reference tariffs.

The reference tariffs for GSN are structured to achieve the following incentives:

- *Incentives for efficiency.* If GSN is able to achieve cost outcomes (operating and capital) below the level allowed for in the decision, while maintaining service standards, it will retain the benefits of such efficiency improvements over the regulatory period.
- *Incentives to grow the market.* The approach will encourage the service provider to increase load growth in the contract market and to expand the volume market. Prices are calculated on the basis of an agreed set of revenue and growth projections. If growth turns out to be stronger than forecast, the benefit is retained by the utility and the prices will not change.
- *Incentive to 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 MDQ or maximum meter flow rate.

3 CAPITAL COSTS

3.1 Asset values and initial capital base

When a reference tariff is first proposed for a reference service provided by a covered pipeline which was in existence at the commencement of the Code, the following factors should be considered in establishing the initial capital base (section 8.10):

- (a) The value that would result from taking the actual capital cost of the Covered Pipeline and subtracting the accumulated depreciation for those assets charged to Users (or thought to have been charged to Users) prior to the commencement of the Code;
- (b) The value that would result from applying the “depreciated optimised replacement cost” methodology in valuing the Covered Pipeline;
- (c) The value that would result from applying other well recognised asset valuation methodologies in valuing the Covered Pipeline;
- (d) The advantages and disadvantages of each valuation methodology applied under paragraphs (a), (b) and (c);
- (e) International best practice of Pipelines in comparable situations and the impact on the international competitiveness of energy consuming industries;
- (f) The basis on which Tariffs have been (or appear to have been) set in the past, the economic depreciation of the Covered Pipeline, and the historical returns to the Service Provider from the Covered Pipeline;
- (g) The reasonable expectations of persons under the regulatory regime that applied to the Pipeline prior to the commencement of the Code;
- (h) The impact on the economically efficient utilisation of gas resources;
- (i) The comparability with the cost structure of new Pipelines that may compete with the Pipeline in question (for example, a Pipeline that may by-pass some or all of the Pipeline in question);
- (j) The price paid for any asset recently purchased by the Service Provider and the circumstances of that purchase; and
- (k) Any other factors that the Relevant Regulator considers relevant.

The Tribunal has considered the factors set out in section 8.10 of the Code in establishing the capital base of GSN’s network for the purpose of determining reference tariffs for reference services.

3.1.1 Depreciated actual costs (section 8.10(a))

The Tribunal estimates that the DAC for GSN is approximately \$14.9m.³ This estimate includes an additional amount to take account of capitalisation of overheads of 15 per cent. The figure was recommended by the Tribunal's consultant, Kinhill Pty Limited (Kinhill) and having considered the amount the Tribunal regards it as appropriate.

³ For the details of this estimation, please refer to Attachment 4 to the Final Decision on the Access Arrangement for GSN.

3.1.2 Depreciated optimised replacement cost (section 8.10(b))

GSN submitted a consultancy report by GHD to support a DORC of \$34.88m for the Wagga Wagga gas distribution system assets.⁴ During the review process of GSN's Access Arrangement proposal, the Tribunal commissioned Kinhill to conduct an independent assessment of the replacement cost valuation.⁵ The optimised replacement cost estimated by Kinhill is lower than GSN's proposed DORC. The main reasons are the lower meter/regulator costs and the use of smaller diameter pipe due to the higher operating pressures proposed for an optimised system. After accounting for accumulated depreciation, the DORC value has been estimated at \$30.8m, which is 4 per cent below GSN's proposed DORC.

Table 3.1 DORC valuation as at 1 July 1998 (\$m)

Asset Class	GSN proposed DORC	DORC based on Kinhill Study
Distribution mains	23.6	22.0
Services (14,000 services)	5.7	6.0
Metering/regulators	1.3	1.0
District regulators	1.2	1.4
City gate	0.3	0.3
SCADA system	0.07	0.1
Total system assets	32.1	30.8
<i>Other non-system assets:</i>		
Stock at 27 June 97	0.4	0.4
Land and building	0.7	0.7
Mobile equipment	0.5	0.5
Sundry plant and equipment	0.3	0.3
Total non system assets	1.8	1.8
Initial capital base excluding working capital	34.0⁽¹⁾	32.7

Source: GSN correspondence, May 26 1998, *Review of the Optimised Replacement Cost of the Natural Gas Distribution Network in Wagga Wagga*, Final Report by Kinhill Pty Ltd, August 1998.

Note:

1. GSN proposes an initial capital base of \$34.9m. The \$34m value includes net working capital of \$0.9m..
2. The totals may not add up due to rounding.

Both valuations estimate optimised replacement cost on the basis of brownfields conditions. Kinhill was also asked to comment on a greenfields valuation. In its analysis, Kinhill assumes that the optimised network is built as designed, but roads, footpaths and driveways have not yet been built and therefore, construction rates are low. The undepreciated optimised replacement cost for a greenfields system is estimated at \$28.4m, which is substantially lower than for the brownfields valuation.

⁴ GHD valuation of the Wagga Wagga Gas Distribution System Asset, June 1997.

⁵ Kinhill, *Review of the Optimised Replacement Cost of the Natural Gas Distribution Network in Wagga Wagga*, August 1998.

The Tribunal acknowledges that the actual capital outlay paid by the original investors/owners may be somewhere between brownfields and greenfields optimised replacement costs, particularly where the system has been built and then gradually expanded in a 'developing' area. Furthermore, to the extent that pipes are replaced rather than refurbished and/or relined, future replacement costs may more closely approximate the brownfields estimate. However, it does highlight the sensitivity of valuation outcomes to the approach.

The Tribunal has carefully considered the GHD and Kinhill values, which in any case are close. The Tribunal considers that they are both reasonable estimates of DORC asset values for the Wagga Wagga system.

3.1.3 Application of other well recognised asset valuation methodology (section 8.10(c))

Depreciated inflation adjusted historical cost

Indexed historical cost is a cost based valuation derived by applying inflation (or some appropriate indices) to actual capital costs. Providing that this value does not violate the by-pass cap (ie DORC), this valuation would be consistent with the ongoing regulatory regime which adjusts the asset base in line with inflation, and allows a real rate of return on this base. If the relevant assets had been operational under a depreciated historical cost regime with a nominal allowed return that reflected the true cost of capital, then switching to a depreciated inflation adjusted actual cost regime with a real return, and using the remaining DAC asset base as the value for sunk existing assets, would be consistent. This change need not alter the net present value of the original investment from the time the investment was made.⁶

The Tribunal estimates that the indexed historical cost for the Wagga system is between \$23-27m.

Optimised deprival value

Optimised deprival valuation is expressed as:⁷

Optimised Deprival Value = *minimum* { DORC, *maximum* [NPV, NRV] }

NPV = net present value of future earnings (ie economic value)

NRV = net realisable value (ie disposal value)

In applying ODV, the Tribunal has adopted an approach broadly similar to that adopted in the NZ handbook for optimised deprival valuation of electricity line businesses. The process matches assets with particular groups of customers. Factors to be considered when determining how the system should be partitioned include tariff structure and asset location.

⁶ The Tribunal has obtained advice by Professor S King.

⁷ *Review of the Asset Valuation Guidelines of the Steering Committee on National Performance Monitoring of GTEs*, Johnstone, DJ, and Gaffikin, JR, Department of Accounting and Finance University of Wollongong, June 1995, p 4.

The gas distribution system in Wagga Wagga is first partitioned into segments comprising assets servicing customers with similar characteristics. DORC valuations of asset groups are determined and allocated to various parts of the system in a way that reflects the use made of those asset components by customers. This establishes a DORC asset-based value for each part of the system. The broad steps therefore involve:

- Allocating DORC asset values to various parts of the system as described above.
- Partitioning the Wagga Wagga system in two: one part servicing volume, the other servicing contract customers.
- Allocating current revenues and expenses to each part of the system.
- Projecting the future revenues and expenses of each part. This will involve estimating sales growth and efficient expenditure levels. Current average prices for volume customers are assumed to achieve price stability. As for contract customers, the current revenue is not sustainable due to the bypass risk (charges include a return on asset value well above DORC). As a consequence, a transitional revenue path is assumed for contract customers.
- Calculating the future free cashflow based on the projected revenue and expenditures.
- Discounting the free cashflow to derive the NPV.
- Determining the ODV asset value as the lower of the DORC asset value and NPV.

The valuation results based on a discount rate of 7.75 per cent are summarised below:

Table 3.2 Asset value based on optimised deprival value approach (\$m)

	Contract market	Volume market	Residual value	Total
Operating costs	0.2	1.5		1.65
Network revenue	1.5	3.9		5.4
Discount rate = 7.75%				
A - NPV (net of capital refurbishment)	6.1	25.0	1.1	32.2
B - DORC (system + non system assets)	3.5	29.3		32.7
Optimised deprival value (lower of A&B)	3.5	25.0	1.1	29.5

Note:

1. The total column may not add, due to rounding.
2. The residual value has not been divided into the two markets.

Details of the assumptions and the net present value analysis are listed in the *Final Decision - Access Arrangement Great Southern Energy Gas Networks Pty Limited*.

Indicative market value

In establishing the indicative market value, the Tribunal has considered the tender bids submitted at the time of sale of the gas business by the Wagga Wagga Council in 1997.

To establish the market value for the gas network business, an estimate of the value of the retail margin needs to be deducted. A net retail margin of 2 per cent was assumed, following consultation with various stakeholders. This suggests a retail margin of \$230,000

per annum. Depending on which price earnings multiple is adopted, this implies a value of \$2-3m for the retail business.

On the basis of tenders from companies not involved in the electricity business in NSW, an indicative business value for the gas network of \$14-\$32m could be derived. If the outlier bid (the lowest tender) is excluded, the indicative business value for the gas network would be within the range \$22-32m. This value would include:

- any strategic value for bidders who do not have a presence on the regional electricity market
- the value of future growth opportunities.

The strategic value of purchasing the Wagga Wagga gas business may be greatest for electricity utility because of the synergies provided. These synergies may be even greater for an incumbent electricity supplier such as GSE.

3.1.4 Advantages and disadvantages of alternative asset valuation methodology (section 8.10(d))

An evaluation of the methodologies for asset valuation for pricing purposes can be assessed in terms of:

- degree of subjectivity, the key factor being the ability to verify the asset value
- implications for economic efficiency and competition
- equity, in terms of impacts on customers and the service provider
- transparency, in terms of stakeholders' expectations
- practicability, in terms of future implementation as the capital base is rolled forward.

The advantages and disadvantages of methodologies considered by the Tribunal are summarised below.

Table 3.3 Evaluation of asset valuation methodologies for existing assets

	DAC	Inflation adjusted historical cost	DORC	ODV	Market value
Basis	Cost-based measure, sunk costs.	Cost-based measure, sunk costs.	Cost-based measure, sunk costs.	Hybrid approach; cost based and value based using cashflow.	Based on earning capacity and cashflows of the asset/business, forward looking.
Subjectivity	A balance sheet item required in the audited financial statement, arguably least subjective.	Indexation of actual cost using inflation, arguably less subjective.	Engineering assessment, subject to optimisation and estimate of remaining life. Arguably greater subjectivity.	Subject to "allowed regulated price" requiring a high degree of judgement.	Market evidence but may fluctuate depending on market sentiment and condition. Limited evidence available.
Pricing implication/ revenue profile	Likely to lead to front loaded cost recovery ie higher revenue in early years.	Likely to give a stable revenue requirement if implemented at the beginning of the asset life.	Likely to give a stable revenue requirement if implemented at the beginning of the asset life.	Prices are likely to be capped for some customers.	Subject to the relationship between market value and book value.
Movement over time	Depends on accounting depreciation and assumed asset life.	Indexed by inflation.	Depends on indexation and depreciation.	Depends on assumptions and economic valuation.	May be more volatile, depending on investors' behaviour and expectations.
Implications for depreciation assuming straight line depreciation	Historical cost depreciation.	Inflation indexed historical cost depreciation. Higher depreciation over time.	Current cost depreciation. Higher depreciation over time.	Between DAC and DORC depreciation.	May require the application of a market to asset ratio to calculate "regulatory" depreciation.
Practicability and ease of implementation	Arguably relatively simple to implement.	Arguably relatively simple to implement.	More complex at initial setting. Future complexity depends on indexation.	Problem of circularity in the economic valuation.	Available only if there is tradeable equity or there is an established market for the asset.

Source: IPART analysis.

Economic efficiency issues

Economic analysis can place bounds on the valuation of sunk assets that embody a natural monopoly service. The lower bound is represented by a 'scrap value' or 'exit price valuation'⁸, which is the opportunity cost of retaining assets in their current use. The upper bound is given by the opportunity for inefficient bypass. Often, DORC is considered a proxy for this upper bound so that setting an asset value above DORC may create the potential for inefficient bypass.

Regarding economic efficiency, productive efficiency suggests that the asset valuation should lie between the 'exit' value and the 'bypass' value. Principles of pricing for allocative efficiency suggests that fixed costs should be recovered in a manner which minimises distortion of behaviour. By increasing the fixed costs a higher initial asset valuation may make it difficult to achieve this objective.

In regard to dynamic efficiency, the issue is the relationship between the valuation of existing sunk assets and future incentives for investment.

⁸ King (1996) uses the term scrap value and Ergas (1998) uses the term exit price valuation.

Two basic economic arguments can be used to connect the once-off valuation of existing sunk assets with regulatory reputation and future investment. Firstly, there may be an 'adverse selection' argument. This argument is based on asymmetric information and the belief that there is a 'type' of regulator that is willing to act opportunistically over time. If the regulator sets a low asset value today, this 'reveals' that the regulator is intending to act opportunistically at a later date. The low valuation will deter investment because potential investors will perceive that they will have the value of their investment reduced by the opportunistic regulator at a later date.

Secondly, there is an on-going 'regulatory contract' argument. This analysis centres on the on-going interaction between the relevant regulator and firm over time. If the regulator behaves opportunistically at one point in time, the regulated utility will be unwilling to invest because it believes that any future investment will be met with further opportunism by the regulator.

Both arguments rest on the purported ability of the regulator to act opportunistically in the future. However, there appears to be relatively limited scope for such future opportunism. The Code will clearly state how new investment should be rolled into the existing asset base and how it should be treated over time. The use of inflation adjusted actual asset valuation for the on-going asset base substantially limits the possibilities for regulatory opportunism. The ability of a regulator to act opportunistically appears to be limited to the treatment of redundant capital.

Some argue that to avoid any appearance of regulatory opportunism, it is necessary to value the existing sunk assets at the DORC valuation. This is not an economic argument for DORC valuation. Rather, it suggests that a higher asset valuation is less likely to lead to a perception of regulatory opportunism. It can be argued that any valuation above the 'exit' value will show that the regulator is not behaving in an opportunistic fashion. On the other hand, it can also be argued that either a DAC valuation or an ODV valuation may be viewed as equally valid 'signals' of non-opportunistic intent as a DORC valuation.

Equity issue

Economic analysis provides important input for the valuation of sunk assets for access regulation. But it does not suggest that one specific asset valuation is unambiguously superior to all others.

Consideration of customer impact is another important issue in deciding the initial capital base, which has implications for the total revenue and network prices. Assessing the impact on users and service providers is not a mechanistic process, particularly if there are existing cross subsidies between customer classes. Often, the issue is complicated by historical factors, eg past pricing decisions which may not have been made efficiently.

3.1.5 Other considerations required by the Code

International best practice and impact on energy consuming industries

North American regulatory practice is largely based on DAC. The US experience with historic cost valuation and nominal returns is very much within the context of 'ongoing' regulation. In this context, the US experience provides limited input to the question of introducing a regulatory regime and the transitional problem of sunk asset valuation.

UK utility asset values for price regulation are based on values which are commonly well below depreciated replacement costs.⁹

The flow-on effect on pricing (from an asset valuation) has important implications for network users, particularly energy consuming industries. Higher charges to downstream users will jeopardise recovery of their costs, as they may not be able to pass the higher charges on to their customers. The impact will depend on the availability of substitutes for gas.

Historical tariffs, economic depreciation and returns

The Tribunal undertook a profitability analysis using audited gas trading accounts provided by the former owner, Wagga Wagga City Council (WWCC). The analysis¹⁰ suggested that tariffs set by WWCC generated good returns by commercial standards, including recovery of capital through the allowance for \$7m accumulated depreciation in the cost base. The Tribunal therefore inferred that “customers as a whole appear to have contributed substantially to the capital investments made by the previous pipeline owners”. There was no suggestion of under-recovery of costs (on a DAC basis), which would require remedy through increases in average prices.

The profitability analysis is based on returns to the previous owner (WWCC) which had reported its gas business used historical costs. Although tariffs are not set on a cost of services in the past, it can be inferred that the costs reported in WWCC accounts included a return component and depreciation on historical cost basis.

Reasonable expectations of persons under the regulatory regimes that applied for connection prior to commencement of the Code

One indicator of the reasonable expectations of the various parties is to compare the revenue stream which would result from continuation of the pricing policies of the previous network owner with the revenue stream that will be allowed under GSN’s access arrangement. It is reasonable to infer that this implies that the projected transportation price in the future should not exceed that which would have existed in the absence of the change of the regulatory regime, unless the previous pricing policies can be shown to be clearly undesirable or unsustainable.

Impact on the economically efficient utilisation of gas resources

The valuation of initial capital base should encourage:

- static efficiency, ie the efficient use and operation of the existing network
- dynamic efficiency, ie efficient decisions about new network investment.

In a competitive market it would be expected that prices would be sufficient to provide the investor with a ‘normal’ return over the life of the asset, even though returns from year to year are likely to reflect market conditions. The use of either a nominal return on DAC or a real return on DORC should, in principle, provide a similar income stream over the life of an asset.¹¹ Thus, both can approximate market outcomes over the life of the asset although the

⁹ For example, the regulatory capital base for the UK water services companies in 1994/95 is around 15 bn pounds compared with a modern equivalent asset value of 156 bn pounds. The exceptions are British Airports Authority and British Telecommunication Plc.

¹⁰ *Draft decision on GSN Access Arrangement*, pp 48-49.

¹¹ Subject to the impact of technological change and construction costs.

profile will vary over time. The decision of a potential new entrant would be expected to reflect expected income streams over the life of an asset. In this context it is expected that the new entrant will respond to expected prices over time rather than to the price in a particular year.

The potentially competitive elements of the gas supply chain are upstream and downstream of the distribution and transmission networks. To the extent that the network business extracts monopoly rent (for example, through high asset values and/or high cost of capital), it reduces the scope for competition in the potentially competitive retail (downstream) and production sector (upstream). It is argued that if economic rent is extracted by the network service provider, there is less scope for competition from new fields. New gas producers will be discouraged if transportation tariffs are too high.

Lower prices are likely to encourage gas use. However, setting prices too low may discourage a service provider from investing in the gas industry. Insufficient investment in gas pipelines may adversely affect the serviceability of the service provider, leading to lower service standards.

Economic efficiency principles provide guidance on the valuation of the initial capital base. However, an approach, or switch over in approaches, resulting in systematically higher average prices than necessary to meet the reasonable business interests of the service provider would run counter to the objectives of efficient pricing.

Once an initial capital base has been chosen it is not able to be changed in subsequent reviews except for circumstances specified in the Code. The key issue for incentives, therefore, is how new investment is brought into the capital base.

Comparability with the cost structure of new pipelines that may compete

The asset valuation methodologies chosen should not leave GSN open to uneconomic bypass. A DORC valuation reduces the possibility of inefficient bypass. If DORC is properly estimated and allocated to customers, it should not be economic to duplicate the system as a whole, or large sections of the system. However, if prices are based on average costs, it may still be economic to 'cherry pick' and build bypass networks to serve a smaller group of particularly attractive loads. Hence, it is important that there be sufficient scope for negotiation to allow the utility to respond to circumstances.

However, in some cases, the alternative to the existing network may not be a bypass pipeline but rather, use of another energy source or feedstock or the importation of a processed product. In this case, the DORC asset value may not be applicable and the 'bypass price' may be lower than DORC.

The price paid for any asset recently purchased by the service provider and the circumstances of that purchase

The Tribunal is of the view that the initial capital base should not normally be equated to the purchase price of the business. It is of the view that any apportionment of intangible assets to the network business should normally be excluded from the initial capital base.

3.1.6 Initial capital base

After considering the factors noted above, the Tribunal has determined that the initial capital base of GSN's network at 1 January 1999 should be \$28m. This is consistent with the Code that the initial capital base should normally lie between depreciated actual cost and depreciated optimised replacement cost.

The initial capital base (\$28m) is allocated between the various zones and customer classes on the basis of the 'adjusted' optimised replacement cost of the initial capital base.

3.1.7 Rolling forward the capital base

Section 8.14 of the Code provides for the initial capital base after the expiry of an Access Arrangement:

Where an Access Arrangement has expired, the initial capital base at the time a new Access Arrangement is approved is the capital base applying at the expiry of the previous Access Arrangement adjusted to account for the new facilities investment or the recoverable portion (whichever is relevant), depreciation and redundant capital (as described in section 8.9) as if the previous Access Arrangement had remained in force.

Rolling forward the capital base can be expressed as follows:

Regulatory capital base = Initial capital base + New facilities investments (excluding speculative investment) - Depreciation - Redundant capital

The Code has specific provisions covering the treatment of:

- New facilities investment (sections 8.15-8.17).
- Speculative investment (section 8.19).
- Capital contributions (sections 8.23 and 8.24).
- Redundant capital (section 8.27).

The Code also provides guidance on dealing with forecast capital expenditure in the development of reference tariffs and the timing of recognising capital expenditure in the capital base.

The Tribunal has determined that under the cost of service model, the capital base (including future new facilities investment which meets the Code requirements) and depreciation should be indexed by the national consumer price index (all groups, weighted average of eight capital cities) defined as "CPI" in the Access Arrangement for GSN. A real rate of return is allowed on the regulatory capital base.

3.2 Rates of return

The Code sets out broad principles for determining the rate of return (section 8.30). Essentially, the Code requires that:

The Rate of Return used in determining a Reference Tariff should provide a return which is commensurate with the prevailing conditions in the market for funds and the risks involved in delivering the Reference Service.

Section 8.31 of the Code states that:

The Rate of Return may be set on the basis of a weighted average of the return applicable to each source of funds (equity, debt and any other relevant source of funds). Such returns may be determined on the basis of a well-accepted financial model, such as the Capital Asset Pricing Model. In general, the weighted average of the return on funds should be calculated by reference to a financing structure that reflects standard industry structures for a going concern and best practice. However, other approaches may be adopted where the Relevant Regulator is satisfied that to do so would be consistent with the objectives contained in section 8.1.

The Code provides guidance for the use of capital asset pricing model (CAPM) and the weighted average cost of capital (WACC). However, in assessing and applying the model's parameters, issues arise which reveal considerable differences in opinion. It is noted that CAPM is only one approach to setting a rate of return.

In determining the rate of return for GSN, the Tribunal must have regard to the objectives in section 8.1 of the Code, and other relevant factors under section 8 and the matters in section 2.24 of the Code.

3.2.1 Establishing a WACC range

The Tribunal has considered a feasible range applicable to the gas distribution industry and GSN using WACC. This is described below.

Cost of equity

In accordance with the CAPM principles, the risk free rate of return should be assessed on a forward-looking basis, and should reflect returns which investors currently can obtain in the market. The Tribunal has decided to adopt the 20 day average of the 10 year Commonwealth bond rate to reduce the day-to-day fluctuation of interest rates.

The Tribunal has adopted a nominal risk free rate of return of 5.67 per cent in the draft decision (September 1998) as the upper bound and 5.18 per cent in the final decision (March 1999) as the lower bound. After adjusting for inflation, a real risk free rate of 3.43-3.46 per cent is assumed.

The Tribunal has adopted the risk premium on equity, reducing the range of 5.0-6.0 per cent but has used an asset beta range of 0.40-0.50. The equity beta is in the range 0.9-1.1.

Adding the risk free rate of return to the risk premium applicable to the gas sector gives a post tax return on equity of around 9.8-12.3 per cent in nominal terms.

Cost of debt

The Tribunal has concluded that the cost of debt for gas utilities is 1.2 per cent above the risk free rate of return.

Cost of capital - a feasible range

The Tribunal has assumed a capital structure based on a long term proportion of debt funding of 60 per cent. Having regard to submissions received and the Tribunal's analysis and obligations under the Code, the application of the CAPM/WACC model results in a rate of return in the range of:

- 9.8-12.3 per cent nominal post tax return on equity, or
- 5.9-8.4 per cent pre tax real rate of return on capital.¹²

Table 3.4 presents the results of the parameters adopted in the final decision.

Table 3.4 WACC estimates based on IPART decisions

	IPART's decision
Risk free rate	5.18-5.67%
CPI	1.7-2.1%
Real risk free rate	3.43-3.46%
Market risk premium	5.0-6.0
Debt margin	120 basis points
Debt to total assets	60%
Gamma	0.3-0.5
Tax rate	36%
Asset beta	0.4-0.5
Debt beta	0.06
Equity beta	0.9-1.1
Cost of equity (nominal post tax)	9.8-12.3%
Cost of debt (nominal pre tax)	6.4-6.9
WACC (nominal post tax)	5.5-6.8%
WACC (real pre tax)	5.9-8.4%

The Tribunal has considered the above parameters which provide a useful guide for establishing an appropriate range for the cost of capital under the CAPM approach.

In determining GSN's rate of return the Tribunal has considered its specific market and risk characteristics in the light of capital market conditions at the time of draft and final decision.

3.2.2 Risk assessment of GSN

In assessing the business risk faced by GSN, the Tribunal has examined the profile of GSN, including its area of operation, customer profile, growth prospects, competition, operational issues, and the potential volatility of earnings.

The Tribunal considers that the risks faced by GSN are generally low. However, in determining the rate of return for GSN, some 'headroom' could be allowed for specific risk factors, given:

- risks perceived to be associated with the novelty and immaturity of the regulatory regime

¹² The lower and upper range is the real pre tax WACC using the two alternative conversion methods from nominal post tax WACC to real pre tax WACC.

- GSN's vulnerability through having only a small number of major customers.

It should be noted that GSN's risks are unique and diversifiable. Under the CAPM model they should ideally be incorporated into cashflows rather than into WACC.

3.2.3 Rate of return for GSN

The Tribunal has considered a range of issues, including the business risks faced by GSN, market expectations, regulatory returns allowed by overseas regulators, and other economic considerations. A rate of return within the range 7-8 per cent (real pre tax) which is towards the higher end of the range under the CAPM framework is considered appropriate for GSN, given the size of its network and the associated risk.

Within this range, the Tribunal must decide on the most appropriate rate of return for GSN. The final decision was made after examining the initial capital base, the implications for prices, new investments and competition, GSN's cashflow positions and financial projections for the next ten years, other risks including revenue risk due to supply interruption and capital redundancy. The Wodonga inter-connector means that GSN will have dual supply from the Gippsland Basin and the Cooper Basin. The Tribunal has allowed for an additional rate of return to compensate for the risk of possible capital redundancy and in recognition of the uncertainty involved in novel regulatory arrangements.

Having considered the matters described above, it is the Tribunal's determination that a **real pre tax rate of return of 7.75 per cent**¹³ should apply to GSN for this Access Arrangement period. This conclusion is consistent with a **nominal post tax return on equity of approximately 11-12 per cent**.¹⁴

3.3 Depreciation

3.3.1 Assumptions on economic life of assets for depreciation

The optimised replacement cost value of the distribution system was depreciated using industry standard useful lives established by GHD as part of the valuation process.

The remaining lives have been estimated on an asset group basis from GSN staff knowledge. GHD carried out inspections of assets for the purpose of verifying the assumed current ages.

With the inclusion of motor vehicles and mobile plant as well as sundry plant and equipment, *accounting* depreciation for the optimised replacement cost assets is \$1.175M per year.

The Tribunal has considered the depreciation component in the cost of service methodology. The Tribunal has determined that regulatory depreciation should be calculated based only

¹³ In coming to this judgement, the Tribunal has, as noted above, considered among other things, GSN's return on equity under CAPM. The return on equity can be transformed into a real pre tax rate of return.

¹⁴ This conversion occurs within the framework provided by CAPM/WACC. The conversion from a return on equity is based on a cost of debt of around 6.9 per cent and a debt to equity ratio of 60%:40%. The assumed gearing ratio is considered appropriate and reflects standard industry capital structures for energy infrastructure providers.

on the regulatory capital base, thus reflecting the initial capital base determined by the Tribunal.

Table 2.1 below details the useful life, remaining useful life, replacement cost, accumulated depreciation, initial capital base and regulatory depreciation of the various system asset categories in 1999:

Table 3.5 Regulatory depreciation (\$'000)

Asset Category	Useful Life (Years)	Average Age (Years)	Replacement Cost \$000's	Accumulated Depreciation \$000's	Initial Capital Base \$000's	Regulatory Depreciation \$000's
Network						
Nylon Pipe	50	10	485.60	97.10	388.50	9.70
Polyethylene Pipe	50	10	9,822.60	1,964.50	7,858.10	196.50
Steel Pipe	80	14	6,530.30	1,142.80	5,387.50	81.60
Cast Iron Pipe	100	50	3,343.40	1,671.70	1,671.70	33.40
Galvanised Pipe	50	30	5,593.20	3,355.90	2,237.30	111.90
Services	50	14	7,979.90	2,234.40	5,745.50	159.60
Meters & Regulators	15	8	2,931.50	1,595.70	1,335.80	195.40
District Regulators	40	14	1,820.00	637.00	1,183.00	45.50
Gate Station	50	14	400.00	112.00	288.00	8.00
SCADA & Telemetry	20	1	70.00	3.50	66.50	3.50
Total (network)			38,976.60	12,814.60	26,162.00	845.10
Land & building			658.00	12,814.60	658.00	0
Vehicles & mobile plants			500.31	12,814.60	500.31	100.06
Stock			426.83	12,814.60	426.83	0
Sundry plant & equipment			252.90	12,814.60	252.90	51.6
Total			40,814	12,814.60	28,000	995.77

3.3.2 Forecast depreciation

In accordance with the cost of service method, the forecast cost of services includes depreciation of the capital base.

The Tribunal is aware that depreciation of the capital base is to be determined in accordance with the requirements of section 8.32 of the Code and that the depreciation schedule should be designed having regard to section 8.33 of the Code.

The Tribunal has determined that depreciation for each group of assets will be allowed on the initial capital base established for regulatory purposes. The depreciation schedule will be calculated using straight line depreciation over the economic life of the assets. Depreciation on new capital expenditure will be allowed and added to the cost of service model. For the purposes of determining a reference tariff over this access arrangement period, depreciation based on GSN's forecast capital expenditure as adjusted by the Tribunal is assumed.

The forecast depreciation is shown in Attachment 1 (Financial Summary).

3.4 Capital expenditure forecasts

Annual capital expenditure during the period of the Access Arrangement for GSN is detailed in Attachment 4.

The capital expenditure approved by the regulator (IPART) included an allowance for augmentation to the Network during the period of this Access Arrangement to provide network reinforcement and additional security of supply.

The capital expenditure proposed by GSN has been revised in light of the amounts allowed by the Tribunal in its Final Decision dated 8 March 1999 and in particular the expenditure proposed by GSN to construct the southern gate station and to reticulate Uranquinty has been reduced to the levels allowed by the Tribunal to reflect what the Tribunal believes to be the preferred option to address the need to reinforce supply to the southern portion of the Network. The adjustment was made after consideration of an independent review by an engineering firm. However, if GSN proceeds to reticulate the village of Uranquinty during the period of the Access Arrangement, the assets constructed will not form part of the network covered by the Access Arrangement.

The inclusion of the proposed new infrastructure investment in determining the revenue requirement does not imply that this investment would automatically be included in the capital base at the beginning of the next Access Arrangement period. During the next review the regulator will be required to assess all actual capital expenditure incurred during this Access Arrangement period against the requirements of the Code.

4 OPERATIONS AND MAINTENANCE COSTS

GSN has owned the Wagga Wagga gas business for just two years (since June 27, 1997). GSN now operates it in a substantially different mode to that of its previous owner. Staff numbers have been reduced and the gas field services staff has been integrated into Great Southern Energy's existing electricity depot facilities and structures.

There is little historical financial data available from GSN which to estimate operating and maintenance costs. In the last full year of operation, the 1997/98 financial year, the operating and maintenance costs for the Network were \$1.574M.

There are obvious synergies between the gas and electricity network businesses in areas such as meter reading, plant and equipment and technical design and supervision. This work to merge operations is ongoing and will not be concluded for some time.

Operating and maintenance costs for this report are based on actual costs incurred (with an appropriate allowance for non-recurring costs associated with the integration) and internal data prepared for GSN's 1999/2000 budgetary process.

No allowance has been made in the operating and maintenance costs for the cost of Unaccounted for Gas (UAG). As detailed in the Access Arrangement (Section 7.3), UAG will be dealt with in a manner that does not impact on operating costs.

GSN will add to a User's daily withdrawal of natural gas at their Delivery Points an allowance for UAG to calculate their receipts of natural gas at the Receipt Point. The overall adjustment for UAG is 3.8 per cent in year one of the period of the Access Arrangement falling to 2.5 per cent in year 5. GSN will only be required to make up or receive credit for UAG to the extent that the actual UAG differs from these amounts. That amount is not expected to be material. No gas is used as compressor fuel as there are no compressors on the Network.

GSN's reticulators authorisation includes a condition that UAG must be minimised.

Total annual operating and maintenance costs will be in the order of \$1.26m as detailed in Attachment 5. Expenditure on property taxes and equipment rental has not been shown separately as the amounts are not considered material. A real cost reduction of 1 per cent per annum has been allowed.

The five-year financial summary shown in Attachment 1 details all costs and revenues over the initial period of the Access Arrangement for GSN.

All of the operating and maintenance costs are direct costs and there is no material allocation of costs or cost sharing from or with other related entities.

5 OVERHEADS & MARKETING COSTS

5.1 Corporate overheads

GSN's business is managed by Great Southern Energy under a service agreement between the two companies. Two business units within Great Southern Energy incur the majority of the operations and maintenance expenditure in providing such services. These are:

- Asset Strategy Division. It is the nominal owner of the network and plans, directs and controls the operations and maintenance as well as capital works activities.
- Field Services Division. It acts as a contractor to the Asset Strategy Division and physically performs the operations and maintenance as well as capital works activities.

As part of a commercialisation process, the Field Services Division functions as an autonomous business unit. The unit rates it charges the Asset Strategy Division for the work done covers all its internal costs, including internal payments to other business units of Great Southern Energy for such corporate services functions such as accounting services, information technology, pay-roll and personnel services, property services, legal services and the like.

As such, it is not possible to readily determine the corporate overheads inherent in the Field Services Division charges to the Asset Strategy Division. Those unit rates are benchmarked against the rates charged by external organisations offering similar services.

The direct charge from other business units of Great Southern Energy to the Asset Strategy Division which has been allocated to the Network is approximately \$0.6m, as shown in Attachment 5, and covers the provision of such services as accounting, insurance, information technology, pay-roll and personnel, property, legal and the like to the Asset Strategy Division gas network staff.

5.2 Marketing

GSN's annual marketing budget of around \$0.14m as shown in Attachment 5 is primarily allocated to encourage the efficient use of gas resources and to promote the most environmentally responsible mix of energy consumption across all consumer groups.

GSN believes that consumption products such as gas hot water systems have an important role to play in greenhouse gas reduction due to the displacement of electricity generated from traditional methods (ie coal fired power generation). GSN's public communication approach is two fold B the promotion of gas appliances in the energy mix, and, the education of consumers as to the role (and impact) of various energies in contributing to global environmental problems and the appropriate reduction strategies.

All of the marketing costs of GSN are direct costs and there is no material allocation of costs or cost sharing from or with other related entities.

6 SYSTEM CAPABILITIES AND VOLUME ASSUMPTIONS

6.1 Network description

Natural gas enters the Network through the city gate at Bomen, north of the main city area from the transmission system owned and operated by East Australian Pipeline Limited. At the city gate the pressure is reduced from the transmission line pressure of approximately 7000kPa to approximately 1000kPa.

The gas is then supplied by a Division II Steel main to the Bomen industrial area and via a ring main to the Wagga Wagga central business area. A secondary ring main consisting of 110mm polyethylene pipe supplies the southern area of Wagga Wagga. There are two extensions of the secondary ring main to the areas of Kapooka (to the South West) and Forest Hill (to the East). Most of the Contract Customers are connected to this medium and high pressure system.

Natural gas is then supplied to residential and small business customers in urban subdivisions via a series of 38 district regulators and the medium low and low pressure portions of the Network distribution system which uses mainly plastic pipe (both nylon and polyethylene) with some older areas still using cast iron and galvanised pipe.

The map of the Network at Attachment 6 shows the high pressure steel mains and the medium pressure polyethylene mains.

6.2 Network operation principles

GSN operates the Network at various pressures depending on the location and the piping medium. There is a rehabilitation program in place, which is targeting older areas and replacing or inserting galvanised steel and cast iron piping systems. System pressures will be increased as the rehabilitation program is progressed. The reticulation system operates under the following pressure regime:

- High Pressure - >200kPa
- Medium High Pressure - 90 to 200 kPa
- Medium Low Pressure - 20 kPa
- Low Pressure - 7 kPa

6.3 Network capacity

Network flow rates and capacities have been modelled. The results of this model are given in the Table 6.1.

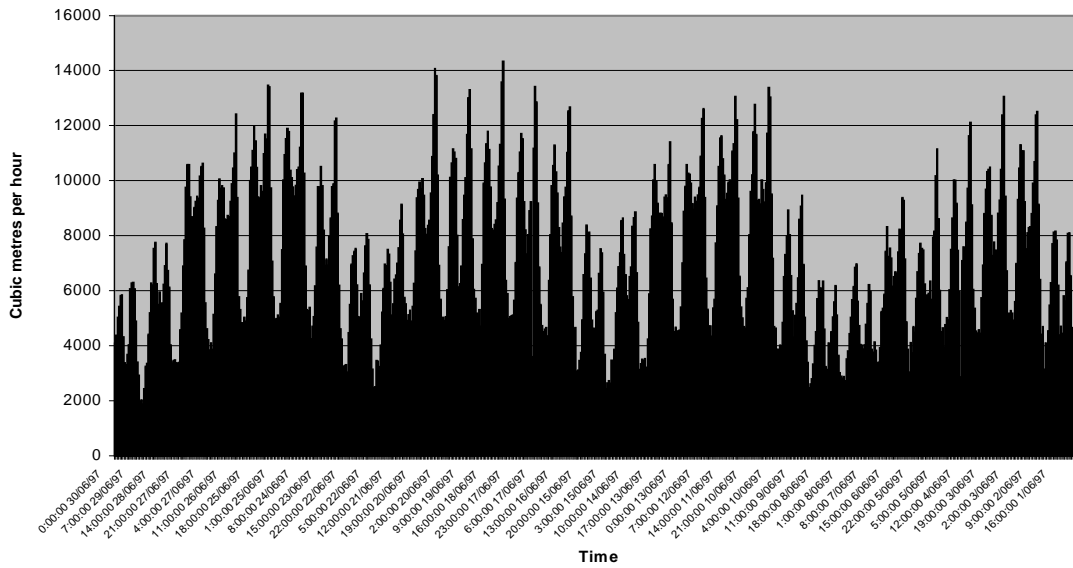
Table 6.1 Flow Assumptions

Suburb	Domestic Consumption (m ³ /hr STP)	Com./Ind. Consumption (m ³ /hr STP)	Total Consumption (m ³ /hr STP)
Bomen	9	511	5,520
Estella	290	1,064	1,354
North Wagga	132	0	132
Bourklands	204	550	754
Glenfield Park	797	0	797
Lake Albert	1,273	0	1,273
Lloyd	48	0	48
Tatton	152	0	152
Ashmont	1,011	150	1,161
Koorinal	1,768	0	1,768
Mount Austin	1,045	200	1,245
Tolland	961	0	961
Turvey Park	671	115	786
W.W Central	2,405	750	3,155
Forest Hill	651	1,070	1,721
Gumly Gumly	35	150	185
Kapooka	214	750	964
San Isidore	0	0	0
Springvale	111	0	111
Total	11,777	10,310	22,087

The information in this model assumes certain conditions and the results are indicative, as these assumptions have not been fully verified.

A review of the Network flows generally indicates that peak flows within the system generally occur during normal business days at around 9 - 10am. Hourly flow rates of up to 19,000 standard cubic metres per hour have been registered at various winter peak times over the past several years. The hourly flow rates at the city gate for June 1997 are shown in Graph 1.

**Graph One
Hourly Flowrates June 97**

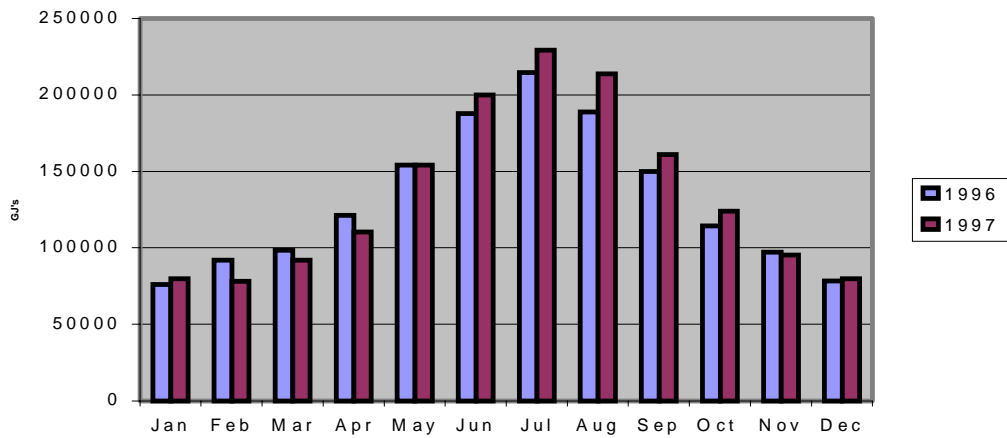


System MDQ on peak winter days is around 9,000 GJ distributed across the following zones and customer groups:

- Bomen Contract Zone - 3550 GJ
- Central Contract Zone - 350 GJ
- Fringe Contract Zone - 550 GJ
- Volume Customers - 4550 GJ

Annual volumes of gas delivered have remained fairly static and have been in the range of 1.5 to 1.6 PJ per year over the last four financial years. Growth in the volume of gas delivered is expected to be zero for Contract Customers and 1 per cent for Volume Customers over the period of this Access Arrangement. Gas deliveries are highly seasonal as indicated by Graph 2.

Graph Two
Monthly Gas Purchases



6.4 Growth assumptions

Key features of demand forecasts are as follows:

- a) Contract market: In 1999 (year 1), the forecast for sales and demand for the contract market will be 834 TJ and 4470 GJ/MDQ respectively. For deriving the reference tariffs, the same level will be used throughout the Access Arrangement period.
- b) one per cent growth per annum for volume customers (clause 3.5.2). In 1999 (year 1), the sales volume forecast is 755 TJ. This growth rate is reflected in the derivation of reference tariffs for the volume market.

Attachment 2 details current and anticipated numbers and annual sales volumes.

7 KEY PERFORMANCE INDICATORS

The objectives of including key performance indicators (KPI's) in this document are to allow comparison of the operating and maintenance costs included in GSN's target revenue with costs in other Australian gas utilities. The KPI's have not been used in any part of the derivation of the Target Revenue or the establishment of Reference Tariffs.

There are issues with the validity of data used in comparisons as the information available is not always relevant or up-to-date.

The Tribunal in the Final Decision uses measures such as cost per customer, cost per thousand kilometres of distribution pipeline and cost per gigajoule. All three are used in Table 7.1 to compare GSN's Wagga Wagga gas operations with estimated costs from Westar, Multinet, Stratus and actual costs from Alinta Gas and AGL.

Table 7.1 Comparison of Operating and Maintenance Costs

	Great Southern Energy (1)	AGLGN (2)	AGC (3)	Multinet (4)	Status (4)	Weststar (4)	Australian average (5)	US Performance Benchmarks (4)
Year	1998	1998	1998	1998	1998	1998	1998	1995
\$ per customer	115	170	78	79	102	93	157	302
\$ m per 1000 km of main	3.0	5.9	4.06	5.30	5.66	5.33	7.0	8.01
\$ per GJ	1.00	NA	0.44	0.79	0.75	0.54	NA	0.22

Sources:

- (1) Calculated by the Tribunal using 1997/98 actual results.
- (2) AGLGN proposed Access Arrangement Information, p 33.
- (3) AGC proposed Access Arrangement, p 41.
- (4) ORG Final Decision - Attachment D.
- (5) AGA Statistics 1998.

ATTACHMENT 1 FIVE YEAR FINANCIAL SUMMARY

(1999 \$'000)

	1999	2000	2001	2002	2003
Revenue (smoothed)					
Bomen Contract Revenue	574	443	346	275	223
Central Contract Revenue	254	190	142	106	79
Fringe Contract Revenue	317	314	311	309	307
Volume Revenue	4,350	4,385	4,413	4,458	4,504
Total Revenue	5,495	5,332	5,212	5,148	5,113
Expenditure					
Operating and Maintenance Costs ⁽¹⁾	1,269	1,256	1,234	1,233	1,221
Corporate Overheads	225	223	221	218	216
Marketing Costs	140	139	137	136	134
Return on Working Capital	95	95	95	95	95
Depreciation	996	1,032	1,041	1,049	1,051
Return on Assets	2,170	2,287	2,312	2,338	2,347
Total Expenditure	4,895	5,032	5,050	5,069	5,064
Nominal Difference	600	300	162	79	49
Regulatory Capital Base ⁽²⁾	28,000	29,505	29,836	30,168	30,283
Annual Return	7.75%	7.75%	7.75%	7.75%	7.75%

Note:

1. Includes cost of preparing Access Arrangement.
2. Regulatory capital base = Initial capital base + forecast new facilities - depreciation.
The figures shown are before indexation. The Regulatory capital base will be indexed by the annual inflation for each year of the Access Arrangement. The national CPI will be used.

ATTACHMENT 2 SALES GROWTH

	1999	2000	2001	2002	2003
Annual Sales (TJ)					
Contract Customers					
Bomen Zone	639	639	639	639	639
Central Zone	81	81	81	81	81
Fringe Zone	115	115	115	115	115
Total Contract Customers	834	834	834	834	834
Volume Customers	755	763	771	779	787
Total Sales	1,589	1,597	1,605	1,613	1,621
Customer Numbers					
Contract Customers					
Bomen Zone	5	5	5	5	5
Central Zone	5	5	5	5	5
Fringe Zone	4	4	4	4	4
Total Contract Customers	14	14	14	14	14
Volume Customers	14,470	14,615	14,761	14,909	15,058
Total Customers	14,484	14,629	14,775	14,923	15,072
Volume Growth	1.0%	1.0%	1.0%	1.0%	1.0%

Note: Total may not add up due to rounding.

ATTACHMENT 3 ALLOCATION OF COSTS

(1999 \$'000)

	Contract Bomen	Contract Central	Contract Fringe	Volume	Total
Operating and Maintenance Costs (\$)	62.0	22.1	85.6	1,194.0	1,363.7
Corporate Overheads (\$)	10.2	3.6	14.1	197.0	225.0
Marketing Costs (\$)	6.4	2.3	8.8	122.6	140.0
Depreciation (\$)	45.3	16.2	62.5	871.9	995.8
Return on Assets (\$)	98.6	35.2	136.2	1,900.0	2,170.0
Total Costs (\$)	222.5	79.4	307.2	4,285.5	4,894.5
Total Base Revenue (\$)	222.5	79.4	307.2	4,285.5	4,894.5
Number of Customers	5	5	4	14327	14341
Annual Sales (GJ)	638935	80513	115023	747400	1581872
Class MDQ (GJ)	3393	372	705	4448	8918
Class MHQ (m ³ /hr)	9000	1508	2980	7702	21190
Cost per Customer (\$)	44,500	15,880	76,800	299	341
Cost per GJ (\$)	0.35	0.99	2.67	5.73	3.09
Cost per GJ of MDQ (\$)	65.60	213.40	435.70	963.50	548.80

ATTACHMENT 4 FIVE YEAR CAPITAL EXPENDITURE FORECAST

(1999 \$'000)

Distribution System	1999	2000	2001	2002	2003
System Rehabilitation	300,015	315,500	315,500	315,500	315,500
Medium Pressure Mains	309,925	233,190	233,190	210,000	210,000
High Pressure Mains	1,000,000		100,000		300,000
Telemetry	60,000	100,000	20,000	20,000	20,000
Total Distribution System	1,169,940	3,888,690	1,308,690	545,500	545,500
Customer Services					
New Connections	300,000	404,600	404,600	404,600	346,800
Meter Change/Testing	200,100	157,500	206,700	121,800	117,900
Contestable Metering	255,000	60,000	-	-	-
Refurbishment	60,000	77,050	77,050	77,050	77,050
Total Customer Services	815,100	872,550	829,270	663,450	601,750
Other Items					
Computer Software	2,500	2,500	2,500	2,500	2,500
Computer Hardware	5,000	5,000	5,000	5,000	5,000
Telephones	1,000	1,000	1,000	1,000	1,000
Office Furniture & Equipment	2,000	2,000	2,000	2,000	2,000
Other	3,000	3,000	3,000	3,000	3,000
Instruments	2,000	2,000	2,000	2,000	2,000
Total Other	15,500	15,500	15,500	15,500	15,500
Total Capex	2,500,540	1,363,340	1,372,540	1,164,450	922,750

ATTACHMENT 5 FIVE YEAR OPERATING COSTS

(1999 \$'000)

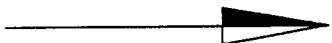
Asset Strategy	1999	2000	2001	2002	2003
Salaries & Wages	190,440	188,536	186,651	184,784	182,936
Core Training	8,000	7,920	7,841	7,763	7,685
Discretionary Training	3,000	2,970	2,940	2,911	2,882
Travel Costs	10,000	9,900	9,801	9,703	9,606
Entertainment (meals only)	1,000	990	980	970	960
Telephones	21,600	21,384	21,170	20,958	20,748
Printing & Stationery	8,000	7,920	7,841	7,763	7,685
Subscriptions	6,000	5,940	5,881	5,822	5,764
Office Equipment	5,500	5,445	5,391	5,337	5,284
Regulatory inspection	10,000	9,900	9,801	9,703	
Licence fees	100	99	98	97	96
Legal fees	4,000	3,960	3,920	3,881	3,842
Consultants	10,000	9,900	9,801	9,703	9,606
Mapping & Data entry	30,000	29,700	29,403	29,109	28,818
Easements & Surveying	1,000	990	980	970	960
Photocopier Rental	800	792	784	776	768
Postage	300	297	294	291	288
Corporate Overheads	225,000	222,750	220,523	218,318	216,135
Marketing	140,000	138,600	137,214	135,842	134,484
Total Asset Strategy	674,740	667,993	661,314	654,701	648,153
Field Services					
System Operations					
District Regulator Pressure Changes	6,802	6,734	6,667	6,600	6,534
Data Logging (Network & Customers)	20,942	20,733	20,526	20,321	20,118
Telemetry Maintenance	3,639	3,603	3,567	3,531	3,496
Gate Station					
Water Treatment	589	583	577	571	565
Maintenance	3,787	3,749	3,712	3,675	3,638
Weekly Inspections	9,308	9,215	9,123	9,032	8,942
District Regulators					
Annual Maintenance Inspection	13,604	13,468	13,333	13,200	13,068
Maintenance	31,503	31,188	30,876	30,567	30,261
Mains Maintenance Surveys & Protection					
Leak Survey	23,552	23,316	23,083	22,852	22,623
Cathodic Protection Survey	4,013	3,973	3,933	3,894	3,855
Cathodic Protection Maintenance, Anodes etc.	4,677	4,630	4,584	4,538	4,493
Coating Survey & Repairs	49,460	48,965	48,475	47,990	47,510
Location Service	65,215	64,563	63,917	63,278	62,645
Survey of exposed assets	8,786	8,698	8,611	8,525	8,440
HP Valve Inspection	10,033	9,933	9,834	9,736	9,639
Pipeline Patrol	17,391	17,217	17,045	16,875	16,706

Asset Strategy	1999	2000	2001	2002	2003
Mains Repair & Maintenance					
Emergency Response	55,187	54,635	54,089	53,548	53,013
Repairs to mains (L Pressure-MH Pressure)	176,875	175,106	173,355	171,621	169,905
Repairs to mains (H Pressure)	9,901	9,802	9,704	9,607	9,511
Services					
Domestic Service Repairs	92,842	91,914	90,995	90,085	89,184
Domestic Service Inspection	47,104	46,633	46,167	45,705	45,248
Ind/Com Service Repair	48,564	48,078	47,597	47,121	46,650
Ind/Com Meter Inspection	73,576	72,840	72,112	71,391	70,677
Volume Corrector Maintenance Cal	1,003	993	983	973	963
Meter Reading	130,433	129,129	127,838	126,560	125,294
Total Field Services	908,786	899,698	890,703	881,796	872,978
Cost of Access Arrangement	50,000	50,000	50,000	50,000	50,000
Interest on Working Capital	95,151	95,151	95,151	95,151	95,151
Total Network O & M Costs	1,728,677	1,712,842	1,697,168	1,681,648	1,666,282

Note: Total may not add up due to rounding.

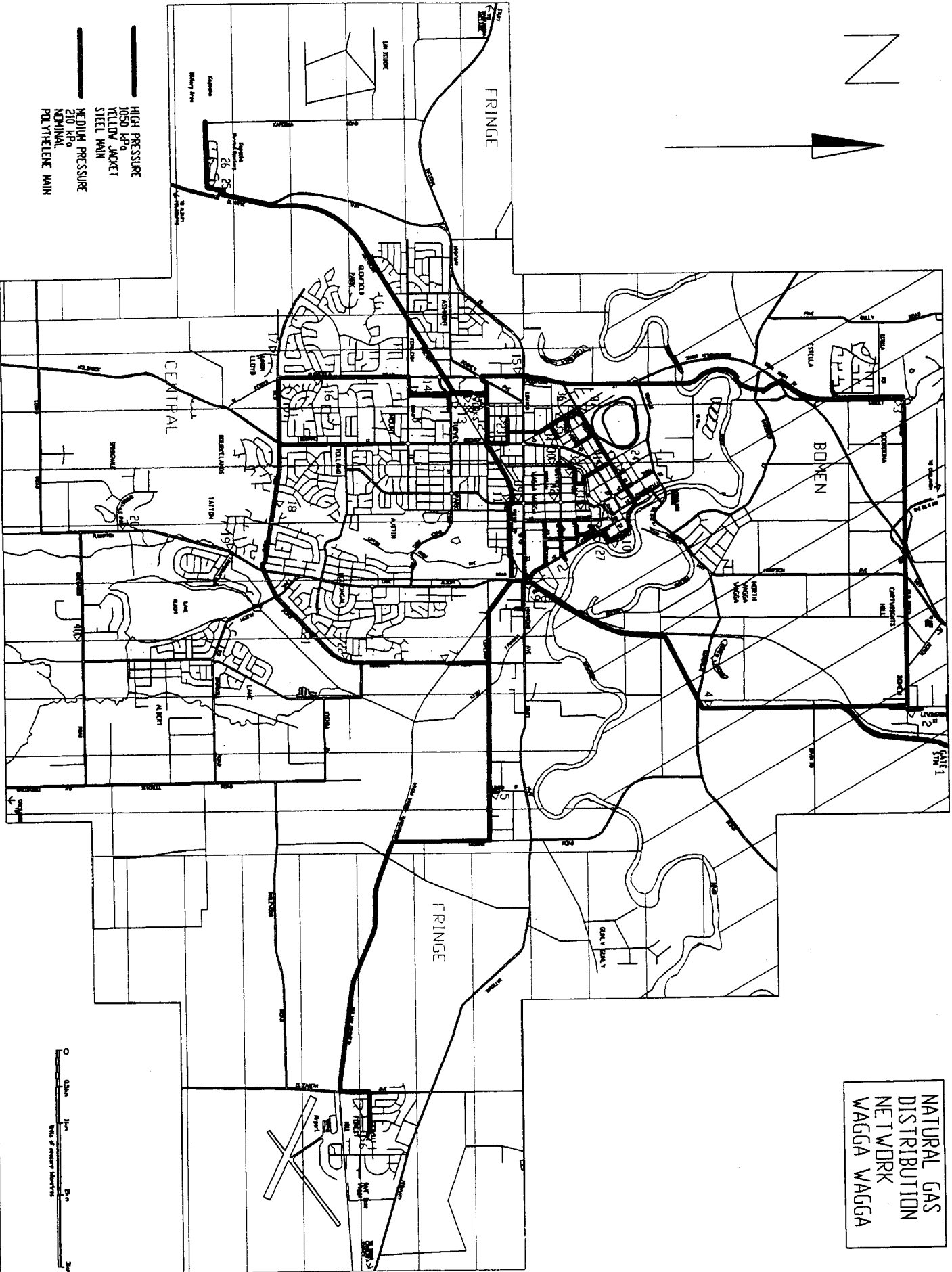
ATTACHMENT 6 MAP OF WAGGA WAGGA NETWORK

N



NATURAL GAS
DISTRIBUTION
NETWORK
WAGGA WAGGA

— HIGH PRESSURE
1050 kPa
YELLOW JACKET
STEEL MAIN
— MEDIUM PRESSURE
210 kPa
NOMINAL
POLYETHYLENE MAIN



**APPROVAL AND
EXPLANATORY INFORMATION**

**Access Arrangement and
Access Arrangement Information**

For

**Great Southern Energy
Gas Networks Pty Limited**

**Natural Gas Distribution System
In Wagga Wagga**

**INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES**

**INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES**

**APPROVAL AND
EXPLANATORY INFORMATION**

**Access Arrangement and
Access Arrangement Information**

For

**Great Southern Energy
Gas Networks Pty Limited**

**Natural Gas Distribution System
in Wagga Wagga**

The Tribunal members for this review are:

**Dr Thomas G Parry, Chairman
Mr James Cox, Full time member
Ms Cristina Cifuentes, Part time member**

Inquiries regarding this document should be directed to:

***Elsie Choy ☎(02) 9290 8488
Gary Drysdale ☎ (02) 9290 8477***

Independent Pricing and Regulatory Tribunal of New South Wales

Level 2, 44 Market Street Sydney NSW 2000

☎ (02) 9290 8400 Fax (02) 9290 2061

www.ipart.nsw.gov.au

All correspondence to: PO Box Q290, QVB Post Office, NSW 1230

TABLE OF CONTENTS

1	OVERVIEW	1
1.1	Background	1
1.2	Explanatory information	1
2	GSN'S RESPONSE TO THE TRIBUNAL'S FINAL DECISION	2
3	SUBMISSIONS TO THE DRAFT ACCESS ARRANGEMENT AND DRAFT ACCESS ARRANGEMENT INFORMATION FOR GSN	3
3.1	Mechanism for recovering costs associated with retail contestability	3
3.2	Gas specification	4
3.3	Calculation of total revenue	5
4	BRIEF SUMMARY OF TRIBUNAL'S REASONS	5
4.1	Introduction	5
4.2	Outline of this chapter	6
4.3	Rate of return, initial capital base, total revenue and reference tariffs	6
4.3.1	Rate of return	6
4.3.2	Initial capital base	7
4.3.3	Total revenue	7
4.3.4	Reference tariffs	10
4.4	Minor variations to other amendments required in the Tribunal's final decision	10
4.4.1	Non capital costs	10
4.4.2	Reference tariffs to limit price shocks to volume customers	11
4.4.3	Metering services	12
4.4.4	Unaccounted for gas (UAG)	13
4.4.5	Agreements	14
4.4.6	Form of agreement with user's customers	15
4.4.7	Supplier of last resort	15
4.5	Other changes considered by the Tribunal	16
4.5.1	Use of CPI for indexation	16
4.5.2	Revisions submission date and revisions commencement date	17
4.5.3	Gas specification	17
4.6	The other amendments listed in the Tribunal's final decision	17
5	TRIBUNAL APPROVAL	22
6	COMMENCEMENT DATE	22
ATTACHMENT 1	SUBMISSIONS TO DRAFT ACCESS ARRANGEMENT	23

1 OVERVIEW

1.1 Background

In March 1998, Great Southern Energy Gas Networks Pty Limited (GSN) submitted to the Independent Pricing and Regulatory Tribunal of NSW (the Tribunal) its proposed Access Arrangement relating to the natural gas distribution system in Wagga Wagga. The Access Arrangement describes the terms and conditions under which GSN will provide third parties with access to its gas distribution system.

The Tribunal published its draft and final decisions on GSN's proposed Access Arrangement on 29 September 1998 and 8 March 1999 respectively. The Tribunal's final decision was not to approve GSN's Access Arrangement and listed 34 amendments that would have to be made to the Access Arrangement in order for the Tribunal to approve it. On 31 March 1999, GSN submitted a revised Access Arrangement which incorporated some, but not all the amendments required by the Tribunal. GSN also submitted a revised Access Arrangement Information and a document titled, *Summary of IPART's Specified Amendments Incorporated (or not) in the Revised Access Arrangement of GSN*.

On 7 April 1999, IPART made a public release which included the statement:

The revised Access Arrangement has not incorporated all of the amendments required by the Tribunal in its final decision. Accordingly, under section 2.20 of the National Third Party Access Code for Natural Gas Pipeline Systems (the Code), the Tribunal is now required to draft and approve its own Access Arrangement, instead of the Access Arrangement proposed by GSN.

On 14 April 1999, GSN applied to the Australian Competition Tribunal (ACT) for a review of the Tribunal's decision to draft and approve its own Access Arrangement instead of the Access Arrangement submitted by GSN.

At a directions hearing held by the ACT on 20 May 1999, GSN, with the leave of the ACT, withdrew its application.

In August 1999, the Tribunal released, for public consultation a draft Access Arrangement and Access Arrangement Information for GSN drafted by the Tribunal under s2.20 of the Code. Submissions on those draft documents closed on Monday 6 September 1999. A list of submissions is provided in the Attachment. The Tribunal's consideration of these submissions is summarised in section 3.

1.2 Explanatory information

Following the close of submissions on 6 September 1999 the Tribunal finalised the Access Arrangement and Access Arrangement Information for GSN under s2.20 of the Code. In doing so, the Tribunal had regard to the additional submissions received in relation to the draft documents published in August 1999.

The Access Arrangement for GSN prepared by the Tribunal contains minor changes to the amendments specified in the Tribunal's final decision. However, the Tribunal has not

amended its final decision that reference tariffs be based on a pre tax rate of return of 7.75 per cent and an initial capital base of \$28m.

Section 2.20 of the Code does not expressly require the Tribunal to draft an Access Arrangement Information. Although not expressly stated, the Tribunal considers that the Access Arrangement Information is required from an overall reading of the Code, and in any event is desirable.

In preparing the Access Arrangement Information for GSN, the Tribunal has considered further information submitted by GSN, following discontinuation of proceedings before the ACT and following the close of submissions on the draft documents on 6 September 1999.

The Tribunal believes that the Access Arrangement for GSN and Access Arrangement Information comply with the provisions of the Code. These two documents accompany this Approval and Explanatory Information and are marked respectively:

- "Access Arrangement for Great Southern Energy Gas Networks Pty Limited: Natural Gas Distribution System in Wagga Wagga ("Access Arrangement for GSN")
- "Access Arrangement Information for Great Southern Energy Gas Network Pty Limited: Natural Gas Distribution System in Wagga Wagga ("Access Arrangement Information for GSN").

The Access Arrangement for GSN and the Access Arrangement Information for GSN are prepared by the Tribunal under s2.20 having regard to the requirements of the Code.

A brief summary of the Tribunal's reasoning in drafting and approving the two documents is contained in chapter 4 of this Approval and Explanatory Information. This Approval and Explanatory Information is a summary only of the Tribunal reasons. It should be read in conjunction with the Tribunal's final decision released on 8 March 1999, the accompanying Access Arrangement Information for GSN and other published documents.

Copies of the Access Arrangement for GSN and the Access Arrangement Information for GSN are available from the Tribunal or from the Tribunal's internet site: <http://www.ipart.nsw.gov.au>. The Tribunal's final decision on GSN's Access Arrangement is also available on the Tribunal's internet site.

2 GSN'S RESPONSE TO THE TRIBUNAL'S FINAL DECISION

On 8 March 1999 the Tribunal published its final decision under the Code on GSN's proposed Access Arrangement. The Tribunal did not approve the Access Arrangement and listed 34 amendments that would have to be made to the Access Arrangement in order for the Tribunal to approve it.

On 31 March 1999 GSN submitted a revised Access Arrangement, a revised Access Arrangement Information and a document entitled, *Summary of IPART's Specified Amendments Incorporated (or not) in the Revised Access Arrangement of GSN*. GSN's revised Access Arrangement did not incorporate 10 of the 34 amendments required by the Tribunal in its final decision. The amendments that were not included are:

No. of Amendment ⁽¹⁾	Amendment
1	Rate of Return
2(a)	Initial Capital Base
6(c)	Non-Capital Costs
7(a)	Total Revenue
9(a), 9(d), 9(e) and 9(f)	Reference Tariffs
13	Metering Services
16	Unaccounted for Gas
20	Agreements
23	Form of Agreement with User's Customers
24	Supplier of Last Resort

Note:

1. The numbering corresponds to the numbering in the Tribunal's final decision.

3 SUBMISSIONS TO THE DRAFT ACCESS ARRANGEMENT AND DRAFT ACCESS ARRANGEMENT INFORMATION FOR GSN

Following the release of a draft Access Arrangement and Access Arrangement Information in August 1999 the Tribunal received submissions from GSN, BHP, the Public Interest Advocacy Centre (PIAC), Esso and the Ministry of Energy and Utilities (MOEU). A brief summary of the matters raised in the submissions is provided in the Attachment.

The Tribunal has considered all these submissions in the approval process. Some of the matters raised in these submissions (eg asset valuation and revisions submission date) have been considered by the Tribunal during the access review process and the preparation of the Draft Access Arrangement.

New issues raised in the submissions include the costs of retail contestability, gas specification and the smoothed revenue approach. The Tribunal's consideration of these issues is summarised below.

3.1 Mechanism for recovering costs associated with retail contestability

Under the timetable for gas retail contestability in NSW, customers using between 1 and 10 TJ (ie large users in the tariff market) will be contestable from 1 October 1999. Full retail contestability for the NSW gas market is scheduled from 1 July 2000.

In its submission of 6 September 1999, GSN submitted a new schedule of charges associated with an interim arrangement for dealing with retail contestability from 1 October 1999. The new charges include metering and fees to deal with customer churn. PIAC submitted that customers who benefit from competition should pay any additional costs.

New systems (eg information system) and procedures will be required to deal with full contestability from 1 July 2000. A working group has been set up to address these issues.¹ It is expected that the working group will make recommendations to the Retail Steering

¹ A series of Working Groups have been formed to develop systems to deal with various issues such as metering/technical/safety issues, customer management systems, customer protection, load profiling, balancing and allocation. The Working Groups report to the Steering Committee.

Committee in November 1999. In the interim, the Working Group has identified procedures to deal with contestability (eg customer churns) from 1 October 1999.

The Tribunal agrees that costs to network operators of implementing competition should be recovered from customers, provided that the costs are incurred by the service provider acting prudently and efficiently. This requires assessment of both the proposed costs and new fees. This assessment will require further information from GSN. An audit or full review of the proposed costs and fees may be required.

At this point in the access review and approval process for GSN, there is insufficient information available to assess GSN's proposed costs of contestability for 1 -10 TJ market. However, the Tribunal has considered the public interest in having competition by putting in place the Access Arrangement for GSN prior to 1 October 1999. The Tribunal therefore has decided that the mechanism for recovering costs of contestability should be dealt with at a later time along with the costs of full contestability and other retail contestability issues which may affect the Access Arrangement for GSN. The Tribunal will continue to consult with MOEU and the Steering Committee to address the concern of service providers in regard to the costs incurred dealing with contestability and to develop an appropriate mechanism for assessing and recovering such costs. The Tribunal wishes to emphasise that its approach is consistent with the requirements of the Code². The Tribunal considers that this should not create any impediment to the introduction of retail contestability.

3.2 Gas specification

In their submissions, MOEU and Esso raised the issue of gas specification.

MOEU is the technical regulator including gas specification and has a policy and monitoring role in implementing gas contestability. In its submission, MOEU states:

The inclusion of a specification in an access arrangement has the potential to restrict trade and the Service Provider's ability to accept gas of a different specification. The access arrangement mechanism is too unwieldy to effectively enable a change of specification.³

MOEU proposes:

- deleting clause 12.2 (c) dealing with triggers relating to gas specification
- amendments to section 6 of the transportation service agreement section that *"the gas delivered to the receipt point by the user must conform to certain specifications in order or precedence: as provided in legislation or regulation applying in NSW, as determined from time to time by GSN for a particular user or group of users, or as set out in Appendix 7 of the Access Arrangement."*

The Tribunal is aware the potential implications of gas specification for competition in the gas market. The Tribunal has considered submissions by MOEU and Esso. The Tribunal accepts the thrust of the MOEU submission and has amended the Access Arrangement for GSN to reflect the intent of the submission.

² Under section 8.37 of the Code, a reference tariff may provide for the recovery of all non capital costs (or forecast non capital costs, as relevant) except for any such costs that would not be incurred by a prudent service provider, acting efficiently, in accordance with accepted and good industry practice, and to achieve the lowest sustainable cost of delivering the reference service.

³ MOEU's submission, 9 September 1999.

3.3 Calculation of total revenue

BHP made a submission about the treatment of target revenue in the smoothed revenue path.

In its draft decision (September 1998) and final decision (March 1999), the Tribunal smoothed the target revenue stream to reduce the volatility in prices and revenues under the access arrangement.

The Tribunal has considered this issue and the Code provisions. The Tribunal believes that the Code is not entirely clear in regard to the glide path or the smoothing approach. Therefore after further consideration, the Tribunal decides to retain the smoothed price and revenue stream under this access arrangement.

4 BRIEF SUMMARY OF TRIBUNAL'S REASONS

4.1 Introduction

As indicated in chapter 1, under s2.20 of the Code, the Tribunal is required to draft and approve its own Access Arrangement, instead of the Access Arrangement proposed by GSN.

In approaching this task the Tribunal considered a number of factors. This included the need for an efficient and timely response, likely to be expected by the market. The Tribunal was also mindful of the considerable debate on the issues through public hearings, written submissions, and information in its draft and final decisions.

Following the Tribunal's final decision, it received further information from GSN. The Tribunal carefully considered this information and further submissions received as part of the process of drafting and approving the Access Arrangement and Access Arrangement Information for GSN.

As far as the Tribunal is aware, this is also the first occasion that a regulator has been required to draft and approve its own Access Arrangement under s2.20 of the Code, instead of that submitted by a Service Provider. It was therefore conscious of the need to keep the market appropriately informed of the approach it was likely to adopt.

In its final decision the Tribunal clearly articulated the nature of the amendments it required. However it is important that it be receptive to reasonable and constructive approaches to its task, provided they are consistent with its obligations as Jurisdictional Regulator and conform to the Code. A related consideration is the need to keep to a minimum, as far as possible, the costs of complying with the Tribunal's requirements.

Having considered these matters, the Tribunal prepared the Access Arrangement for GSN in a manner that ensured the overall integrity of GSN's Access Arrangement document was maintained, while still incorporating those matters that the Tribunal considered necessary in order to comply with the Code requirements.

4.2 Outline of this chapter

The purpose of this chapter is to briefly explain the Tribunal's Access Arrangement for GSN. As indicated, it should be read in conjunction with the Tribunal's final decision and other published documents.

Given its approach to the task of drafting the Access Arrangement for GSN expressed in section 4.1, for convenience this chapter is arranged as follows:

Section 4.3: The Tribunal's approach to the following 4 amendments required in its final decision

- Amendment 1 - Rate of Return
- Amendment 2(a) - Initial Capital Base
- Amendment 7(a) - Total Revenue
- Amendments 9(a), (e) - Reference Tariffs.

Section 4.4: The remaining of the non-complying amendments by GSN, namely

- Amendment 6 (c) - Non-Capital Costs
- Amendment 9(d) and (f) - Reference Tariffs
- Amendment 13 – Metering Services
- Amendment 16 – Unaccounted for Gas
- Amendment 20 – Agreements
- Amendment 23 - Form of Agreement with User's Customers
- Amendment 24 - Supplier of Last Resort.

Section 4.5: Other changes considered by the Tribunal

Section 4.6: The other 24 amendments listed in the Tribunal's final decision.

4.3 Rate of return, initial capital base, total revenue and reference tariffs

In its revised Access Arrangement of 31 March 1999, GSN did not make the amendments required by the Tribunal relating to rate of return (amendment 1), initial capital base (amendment 2a), total revenue (amendment 7a), and reference tariffs (amendments 9a and 9e). As noted in chapter 1, the Tribunal's Access Arrangement for GSN incorporates these requirements along with additional matters.

4.3.1 Rate of return

Tribunal's final decision

Required amendment 1: In order for the GSN's Access Arrangement to be approved, the rate of return (in real, pre tax terms) used in the proposed cost of service methodology for calculating total revenue should not exceed 7.75 per cent (this is consistent with a nominal post tax return on equity of approximately 11-12 per cent).

GSN's revised Access Arrangement

GSN has not incorporated the 7.75 per cent (real, pre tax) rate of return into its revised Access Arrangement. In calculating its total revenue, GSN has used a real, pre tax rate of return of 9 per cent instead.

Tribunal's views

In its final decision the Tribunal concluded that a real pre tax rate of return of 7.75 per cent is appropriate for GSN for this Access Arrangement period. This figure is commensurate with the risks involved in service delivery and the prevailing conditions in the market for funds at the time of the final decision.

A more detailed explanation of the Tribunal's reasoning is contained in its final decision. The Tribunal reviewed its reasoning and further submissions received prior to drafting the Access Arrangement for GSN. It is satisfied that there are no compelling reasons to depart from what it said.

4.3.2 Initial capital base

Tribunal's final decision

Required amendment 2(a): For the GSN's Access Arrangement to be approved, amendment must be made to reflect an initial capital base of \$28m.

GSN's revised Access Arrangement

In calculating its total revenue, GSN has not incorporated an initial capital base of \$28m. Instead, GSN has used an initial capital base of \$34m, ie the depreciated optimised replacement cost proposed by GSN.

Tribunal's views

The Tribunal's final decision concerning GSN's original Access Arrangement was made after considering the requirements of the Code, including sections 2.24 and 8, and the matters specified in section 8.10. The Tribunal's reasoning, including economic and equity considerations, are more fully stated in its final decision. The Tribunal's Access Arrangement for GSN uses an initial capital base of \$28m.

4.3.3 Total revenue

Tribunal's final decision

Required amendment 7(a): In order for GSN's Access Arrangement to be approved, GSN must submit a reference tariff which, if applied over the whole year, will be consistent with total revenue of \$5.2m in 1999. A price cap of CPI-0.6% will apply to each of the years between 1999 and 2003.

GSN's revised Access Arrangement

GSN has not incorporated this required amendment in its revised Access Arrangement:

- the reference tariffs proposed by GSN are based on total revenue of \$5.8m in 1999
- total revenue is shown to rise at a real rate of 2 per cent per annum to produce total revenue equal to the total cost of service (on the basis of a rate of return of 9 per cent and an initial capital base of \$34m) over the period of the Access Arrangement.

Tribunal's views

The Tribunal does not accept GSN's target revenue and reference tariffs in its revised Access Arrangement. For the reasons expressed in its final decision the Tribunal considers that a real pre tax rate of return of 7.75 per cent and GSN's initial capital base of \$28m be used in calculating the target revenue.

However, as indicated in chapter 1, the Tribunal has considered GSN's concerns and made some minor changes as described in this Approval and Explanatory Information.

The total revenue figure in the Tribunal's Access Arrangement for GSN has been established after considering the revised cost of service model provided by GSN on 7 June 1999. There are slight differences between the cost of service and total revenue mentioned by the Tribunal in its final decision, and those in the Tribunal's Access Arrangement for GSN, specifically:

- an additional provision of \$25,000 per annum to cover the cost of preparing an Access Arrangement (details in section 4.4)
- differences in the modelling approach used by the Tribunal in its final decision on GSN's original Access Arrangement proposal and in the final approval. In its cost of supply model, GSN:
 - applies efficiency reduction targets to its non capital costs including operating, corporate overheads and marketing cost
 - incorporates a slightly lower level of overheads
 - calculates depreciation on capital expenditure assuming it is incurred at the beginning of the year
 - calculates the return on the opening value of the capital base in a particular year (rather than applying average value).

Only one of these changes, relating to the costs of preparing an Access Arrangement, has an effect, albeit slight, on increasing the cost of service.

In the final decision, the Tribunal was satisfied that GSN's cost of supply model is reasonable for establishing reference tariffs consistent with the outcomes under section 8.4 and the objectives contained in section 8.1. The Tribunal has reviewed this model and accepts the revenue forecasts generated from it, incorporating its decision on rate of return and initial capital base. What the Tribunal has included in the Access Arrangement for GSN is broadly consistent with that suggested in the Tribunal's final decision.

A comparison of the cost of service and total revenue used to calculate the reference tariffs for GSN is summarised in Table 4.1.

Table 4.1 Total revenue for GSN (real 1999\$m)

	1999	2000	2001	2002	2003
<i>Final decision (8 March 1999)</i>					
Operating costs	1.64	1.63	1.61	1.60	1.59
Depreciation	0.98	1.01	1.04	1.07	1.10
Return on capital base	2.26	2.33	2.35	2.37	2.38
Return on working capital	0.09	0.09	0.09	0.09	0.10
Total revenue (unsmoothed)	4.97	5.05	5.10	5.14	5.17
Smoothed allowed revenue	5.20⁽²⁾	5.19	5.19	5.18	5.17
<i>GSN revised Access Arrangement (31 March 1999)</i>					
Operating costs	1.58	1.57	1.55	1.54	1.52
Depreciation	1.22	1.25	1.25	1.26	1.25
Return on capital base	3.08	3.20	3.21	3.22	3.22
Return on working capital	0.09	0.09	0.09	0.09	0.09
Total expenditure	5.99	6.12	6.11	6.11	6.09
Total revenue	5.76	5.87	6.05	6.30	6.60
<i>Access Arrangement approved by the Tribunal (September 1999)</i>					
Operating costs	1.63	1.62	1.60	1.59	1.57
Depreciation	1.00	1.03	1.04	1.05	1.05
Return on capital base	2.17	2.29	2.31	2.34	2.35
Return on working capital	0.09	0.09	0.09	0.09	0.10
Total expenditure	4.90	5.03	5.05	5.07	5.06
Total revenue (smoothed)	5.49	5.33	5.21	5.15	5.11
Average price \$/GJ	3.46	3.34	3.25	3.19	3.16

Note: The total may not add due to rounding.

The Tribunal is satisfied that the revenue calculations reflect a real rate of return of 7.75 per cent and an initial capital base of \$28m. The smoothed revenue in the Tribunal's Access Arrangement for GSN is consistent with its final decision. The Tribunal has therefore incorporated a smoothed revenue of \$5.49m in 1999. On the basis of an assumed inflation rate of 2.5 per cent per annum over the Access Arrangement period (1999-2003), the smoothed revenue path is translated into an average price cap of CPI-2.5% per annum.

4.3.4 Reference tariffs

Tribunal's final decision

Required amendments 9(a) and 9(e): For GSN's Access Arrangement to be approved, the price proposal must be revised, based on the amendments to target revenue, pricing and metering required in the final decision on GSN's original Access Arrangement proposal. These include:

- ***applying a single rate of return of 7.75 per cent to the whole market***
- ***writing down GSN's initial capital base from DORC to \$28m allocated to the volume market.***

GSN's revised Access Arrangement

GSN has not satisfied requirement amendments 9(a) and (e). Instead, GSN's reference tariffs are based on a rate of return of 9 per cent (real pre tax) and the DORC valuation (\$34m).

Tribunal's views

In its Access Arrangement for GSN, the Tribunal has calculated total revenue incorporating the two principal amendments required in the final decision relating to the rate of return and initial capital base. The write down from DORC to \$28m has been allocated to the volume market.

The Tribunal has reviewed further information on GSN's cost of supply model. The Tribunal is satisfied that the reference tariffs are calculated consistently with the required amendments specified in the final decision. The Tribunal is also satisfied that the reference tariffs meet the factors identified in section 8.2 of the Code and comply with the other tariff principles described in section 8 of the Code. This extends to the objectives set out in section 8.1 of the Code including the need to provide a marked-based incentive to improve efficiency and to promote efficient growth of the gas market as articulated in the Tribunal's final decision.

4.4 Minor variations to other amendments required in the Tribunal's final decision

4.4.1 Non capital costs

Tribunal's final decision

Required amendment 6 (c): In order for GSN's Access Arrangement to be approved, GSN's non-capital cost (operating cost) forecast is to be amended to allow \$25,000 per annum for the costs of preparing the Access Arrangement.

GSN's revised Access Arrangement

The full costs proposed by GSN for preparing the Access Arrangement were reflected in the initial capital base.

Tribunal's views

In its responding submission of November 1998, GSN states that the estimated cost of preparing the Access Arrangement is more than \$250,000 and may be as high as \$500,000. A statement of the costs incurred by GSN was subsequently provided to the Tribunal on a confidential basis.

In its final decision, the Tribunal was mindful that it would not create an expectation that in future, *all* costs, including legal costs, will be recovered automatically. In its final decision, the Tribunal allowed a total amount of \$125,000 for the five years to cover a proportion of GSN's consultancy fees and legal costs relating to this Access Arrangement.

After giving further consideration to this issue and the information submitted by GSN, the Tribunal considers it reasonable that a total of \$250,000 be allowed over the coming five years. This is reflected in the Tribunal's Access Arrangement for GSN as a non-capital cost to be recovered at the rate of \$50,000 per annum.

The Tribunal notes that this change will result in a slight increase in total revenue. The additional cost is \$125,000 over five years in nominal terms, or \$108,000 in present value terms.

4.4.2 Reference tariffs to limit price shocks to volume customers

Tribunal's final decision

Required amendment 9(f): For GSN's Access Arrangement to be approved, the price proposal must be revised, based on the amendments to target revenue, pricing and metering required in this final decision. These include proposals to be provided to limit price shocks to volume customers resulting from the introduction of a fixed charge.

GSN's revised Access Arrangement

GSN has not addressed this issue. GSN believes that the issue of price stability to volume customers should be addressed in the tariff market pricing review.

Tribunal's views

GSN's original proposal in March 1998 was that:

- the volume tariff for residential, commercial and industrial customers using 10 TJ a year should include a fixed and volume component
- 50 per cent of the target revenue allocated to the volume market should be recovered by a fixed charge, and the remaining by a component that varies with throughput.

The 'efficient' network costs will normally be passed on to end use customers. The Tribunal's analysis shows that the introduction of fixed charges will result in price shocks to certain customers (eg small users).

GSN believes that an appropriate fixed charge is \$146 per annum. This would be phased in from the current minimum charge of \$16.50 per quarter over five years by annual increases of \$4.00 per quarter in each year of the coming five year period.

The Tribunal considers a maximum fixed annual charge in the range of \$100 - \$120 per annum to be appropriate for delivery points serving volume customers. In its latest cost of supply model, GSN has allocated costs involved in supplying a volume customer through a fixed charge equal to approximately 44 per cent of those costs. The remaining 56 per cent of the costs are recovered through variable charges. The reference tariffs reflect a fixed charge of \$51 in 1999 rising to \$126 in 2003. This fixed charge is included in the Access Arrangement for GSN.

The Tribunal notes that this change will have no impact on the allowed revenue, but will address the Tribunal's previous concern regarding customer impacts.

4.4.3 Metering services

Tribunal's final decision

Required amendment 9d: For GSN's Access Arrangement to be approved, separate transport and metering charges are to be presented in the Access Arrangement.

Required amendment 13: In order for GSN's Access Arrangement to be approved, metering charges should be clearly identified either as a component of a reference service, or as a separate reference service for both contract and volume customers. The Tribunal requires that the costs associated with metering contract and volume customers be removed from the determination of revenue collected by transportation charges. Metering costs are to be collected through a published metering charge as part of the reference service.

GSN's revised Access Arrangement

GSN has not incorporated the required amendments into its Access Arrangement. GSN considers that section 2.24 of the Code prohibits the Tribunal from refusing to approve a proposed Access Arrangement solely for the reason that it does not address a matter which sections 3.1 to 3.20 of the Code do not require an Access Arrangement to address.

GSN believes that sections 3.1 to 3.20 of the Code do not require it to address the separation of metering charges and transportation charges. GSN does not accept that the Tribunal is allowed to refuse to approve GSN's Access Arrangement due to the non-separation of metering and transportation charges.

Tribunal's views

The Tribunal notes that GSN has included metering charges for contract customers in its schedule of other charges (see Appendix 6 to the Revised Access Arrangement). However, GSN has not specified the level of the charges. GSN has indicated that it is difficult to unbundled metering and transport assets and charges for volume customers.

In light of the data issue raised by GSN and the timing required to provide the required information, the Tribunal has decided not to require metering costs and charges for delivery points serving volume customers to be identified separately. However, GSN has provided the Tribunal with a schedule of metering charges for current contract customers. The Tribunal has considered those charges and is satisfied with them. The Tribunal has therefore incorporated it in the Access Arrangement for GSN.

Regarding revenue from metering charges which should form part of the revenue allocated to the contract market, GSN advises that:

- the capital cost of meters relating to contract customers is not included in the capital base
- the metering function has not been included in operating costs for the purpose of this Access Arrangement
- the annual maintenance cost of these meters is not material⁴.

⁴ Email to Tribunal Secretariat from GSN, 25 May 1999.

After considering GSN's response, the Tribunal is satisfied with GSN's schedule of metering charges. The Tribunal also considers that this change will have no impact on the allowed revenue and no material change to the reference tariffs.

4.4.4 Unaccounted for gas (UAG)

Tribunal's final decision

Required amendment 16: The Tribunal required that clause 7.3 (a) be amended to read: "The percentage for Unaccounted for Gas for the entire Network is estimated to be 2.5 per cent."

To adjust for the change in UAG and correct a cross referencing error, clause 7.3 (b) should be amended to read: "The allowance for Unaccounted for Gas detailed in section 7.2 will be 0.76 per cent for delivery to Delivery Points of Contract Customers and 4.45 per cent for delivery to Delivery Points of Volume Customers."

GSN's revised Access Arrangement

GSN did not make these amendments. GSN comments:

GSN proposed a level of UAG which reflected the costs which "would be incurred by a prudent service provider, acting efficiently, in accordance with accepted and good industry practice", in terms of section 8.37 of the Code.⁵

GSN submits that there is no evidence to suggest that its costs in relation to UAG are above the level allowed by section 8.37 of the Code.

While GSN's UAG is above the Australian average for UAG, this does not mean that GSN costs are above the level allowed by section 8.37.

Section 8.37 required IPART to examine what costs a service provider would incur in providing the reference service. As the reference service must, by definition, be provided using the covered pipeline, in this case the network, IPART must examine the costs that would be incurred on the basis set out in section 8.37 of the Code in the context of the network.

GSN submits that the costs related to its proposed UAG allowance meet this test.

Tribunal's views

Unaccounted for gas can occur due to losses from the system or from metering errors. UAG is a cost which is borne by the users (suppliers/retailers) initially and ultimately by the end users/gas consumers. A benchmark should be specified. GSN will bear the cost of UAG being above this benchmark and retain the benefits if UAG falls below this benchmark. The Tribunal also notes that GSN's capital expenditure includes allowance for renewal and replacement of pipes, which will reduce the level of UAG.

Section 3.6 of the Code (terms and conditions) states:

An Access Arrangement must include the terms and conditions on which the service provider will supply each reference service. The terms and conditions included must, in the relevant regulator's opinion, be reasonable.

⁵ *Summary of IPART's Specified Amendments Incorporated (or not) in the Revised Access Arrangement of GSN, submitted by GSN on 31 March 1999.*

The Tribunal considers that unaccounted for gas is a “term and condition” of the reference service.

The Tribunal is of the view that it is appropriate to set a target of 2.5 per cent (the Australian average for UAG for 1996)⁶ for GSN. Reasons for this are provided in the Tribunal’s final decision. However, it may be difficult for GSN to achieve that target in 1999. GSN has submitted that UAG will be high due to the cast iron mains in its system. It has allowed for refurbishment and replacement capital expenditure to address this issue. The Tribunal considers this reasonable and has therefore agreed to phase in the benchmark over five years.

In allocating UAG between contract and volume customers, GSN intends to apply a figure of 1 per cent for UAG for contract customers based on estimated gas loss relating to meter reading error and on the high pressure system servicing these customers. On this basis, the UAG for volume customers will be 3.8 per cent decreasing to 2.5 per cent over the Access Arrangement period. The Tribunal has incorporated the UAG targets in the Access Arrangement for GSN.

The Tribunal accepts GSN’s allocation of UAG. The Tribunal notes that this change has no impact on the allowed revenue. However, a slight increase in costs (due to unaccounted for gas) to the end users is anticipated. The additional cost over the five year period is estimated at \$133,000 in nominal terms, and \$124,000 in present value terms.

4.4.5 Agreements

Tribunal’s final decision

Required amendment 20: In order for GSN’s Access Arrangement to be approved, clause 2.6.4 should be deleted. There should be no provisions in the transport services agreement regarding power of entry to end use customers other than a reference to the powers under the Gas Supply Act 1996.

GSN’s revised Access Arrangement

Clause 2.6.4 has been deleted by GSN. However, the provisions of the transportation service agreement dealing with powers of entry have not been deleted.

Tribunal’s views

Under section 77 of the *Gas Supply Act 1996*, service providers may appoint inspectors. Sections 55-64 of the Act deal with powers of entry. In summary, inspectors are empowered to enter customers’ premises for the purposes of reading meters and installing, extending, maintaining, repairing or removing gas works (gas works refers to pipes and equipment which form part of a distribution system).

Entry powers would normally be used in cases where access to meters or gas works is difficult (because of physical location or because the landowner refuses to give permission for the network operator’s staff to enter his land). Inspectors must give notice of entry to land except in any of three situations:

- where permission has already been given

⁶ *Gas Statistics Australia 1997*, Australian Gas Association, Canberra, August 1997, p 73.

- for the purpose of reading a meter
- in the case of an emergency.

In most cases the right of entry is not an issue between the service provider and the land owner. Only where there is such an issue may the need to use inspectorial powers arise.

The Tribunal considers it appropriate to accommodate GSN's concern regarding powers of entry to the extent that it is not inconsistent with the Code. The Tribunal accepts those provisions in the Access Arrangement for GSN requiring a service provider to obtain access to customer premises as required for maintenance, operations or metering purposes. The Tribunal notes that this change does not have an impact on the allowed revenue and reference tariffs.

4.4.6 Form of agreement with user's customers

Tribunal's final decision

Required amendment 23: In order for GSN's Access Arrangement to be approved, clause 4.4.1 should be deleted.

Clause 4.4.1 of the proposed Access Arrangement requires all users to have customer connection agreements which terminate when the user's service agreement with GSN terminates, and automatically novate in favour of GSN, the customer's obligation to pay for gas delivered.

GSN's revised Access Arrangement

Clause 4.4.1(a) is included to ensure that if the supplier of last resort (SoLR) provisions came into effect, any existing supply arrangement between an end-use customer and its original supplier of gas will terminate at the same time as the relevant supplier's transportation services agreement is terminated.

Tribunal's views

Pending the development of policy on suppliers of last resort at a state or national level, the Tribunal considers it reasonable to accommodate GSN's concern about customer connection agreements. This is reflected in the Access Arrangement for GSN. The Tribunal notes that this will have no impact on revenue and reference tariffs.

4.4.7 Supplier of last resort

Tribunal's final decision

Required amendment 24: In order for GSN's Access Arrangement to be approved, clause 4.4.3 should be amended to include the following provisions.

- ***When providing notice that the supplier is in default, GSN will advise end use customers of all suppliers operating on the network.***
- ***Supply under SoLR provisions is not to exceed three months and may be terminated by either party at any time subject to similar provisions as apply in the Electricity Industry's Last Resort Supply Code of Practice. These provisions should be specified in the Access Arrangement.***
- ***As determined by Tribunal, Clause 4.4.3 will automatically be replaced when a state or national policy on SoLR has been established for adoption in NSW.***

- ***Clause 4.4.4 Posted Supply Price should be deleted.***

GSN's revised Access Arrangement

Clause 4.4.3 has not been amended by GSN. However, clause 4.4.2(a)(2) has been amended to provide for networks to notify end use customers of all suppliers which have transportation services agreements.

The second amendment relating to the period of supplier of last resort (SoLR) arrangements has been incorporated into GSN's revised Access Arrangement. However, the parties may agree to extend the period of supplier under the SoLR arrangement (see clause 4.4.4.(b)). The last amendment relating to clause 4.4.3 has not been addressed (in clause 4.4.4), but appears to be covered by required amendment 26.

Section 4.4.4 has not been deleted as GSN believes end use customers receive little protection from SoLR provisions when the price at which supply will occur is uncertain.

Tribunal's views

The Tribunal believes it is appropriate to examine the regulation of the posted supply price as part of a state/national policy on SoLR provisions. In the interim, the Tribunal accepts that GSN may replicate Great Southern Energy Retail's terms of supply as a supplier of last resort.

Clause 4.4.4 has been retained in the Access Arrangement for GSN. The Tribunal notes that this change has no financial impact on allowed revenue and reference tariffs.

4.5 Other changes considered by the Tribunal

4.5.1 Use of CPI for indexation

Under the Tribunal's final decision, Sydney CPI would be used to index the capital base (Amendment 3) and reference tariffs (Amendment 7(c)).

The Tribunal has further considered the use of the Sydney CPI rather than the national CPI for price regulation in the energy sector. In light of the development of a national energy market (gas and electricity), the Tribunal now considers that the national CPI, rather than the Sydney CPI should be used. This will enhance consistency in future price changes across jurisdictions. Accordingly, the Access Arrangement for GSN incorporates the use of the national consumer price index (all groups, weighted average of eight capital cities) published by the Australian Bureau of Statistics (ABS).

Apart from annual variation to reference tariffs in future years within the Access Arrangement period, clause 3.7 of the Access Arrangement for GSN provides for variation in reference tariffs relating to any change in the level of any or any new government or statutory fee or tax subject to:

- GSN making an application to the relevant regulator proposing the change
- the relevant regulator having the discretion to appoint an independent auditor (at GSN's expense) to ascertain the impact on reference tariffs before approving a change in reference tariffs in accordance with the independent auditor's advice.

This provides for the calculation and inclusion of the net effect of the GST and associated tax changes on GSN. To avoid double counting of the GST effect for the purpose of adjusting the reference tariffs, the CPI is exclusive of the GST.

For the purpose of indexing the capital base the CPI is inclusive of the GST. This provides for the real value of the initial capital base to be maintained.

4.5.2 Revisions submission date and revisions commencement date

The Tribunal has reviewed the required amendment 32 regarding the revisions submission date. In light of the experience with the current process, the Tribunal considers that:

- the revisions commencement date as the latter of 1 January 2004 or no later than 14 days after the approval of the revisions to the Access Arrangement by the relevant regulator
- the revisions submission date as 1 January 2003, ie twelfth month prior to 1 January 2004, rather than 9 months as previously stated in the final decision.

Until such time any proposed revisions to the Access Arrangement for GSN is approved and takes effect, the reference tariffs set out for year 2004 will continue.

4.5.3 Gas specification

As stated in section 3.2, the Tribunal has amended the Access Arrangement for GSN to address issues arising from the submissions by MOEU and Esso.

4.6 The other amendments listed in the Tribunal's final decision

The Tribunal has reviewed the remaining 24 amendments identified in its final decision and sees no basis to depart from what it said or the amendments it requires. Accordingly, the Tribunal's Access Arrangement for GSN incorporates these amendments. For convenience the amendments are listed as follows:

Required Amendment 2 (b) - Initial capital base: net working capital is to be excluded from the initial capital base and a nominal return on net working capital is to be allowed for separately.

Amendment 4 - Depreciation: the depreciation component must be calculated based only on the regulatory capital base, thus reflecting the initial capital base determined by the Tribunal. The proposed depreciation is to be revised accordingly.

Amendment 5 – Forecast capital expenditure

- ***for the purposes of calculating total revenue, the capital expenditure forecast (in real 1999 \$m) must be adjusted as follows:***

<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>	<i>Total</i>
<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	
<i>2.50</i>	<i>1.36</i>	<i>1.37</i>	<i>1.16</i>	<i>1.40</i>	<i>7.80</i>

- ***the Access Arrangement Information Document Appendix 4 will be revised accordingly***
- ***GSN is required to revise its assumption regarding unaccounted for gas.***

Amendment 6 – Non capital costs: the following amendments to GSN’s non-capital cost (operating cost) forecast are required:

- a) incorporate a lower authorisation fee of \$100, subject to amendment 21***
- b) allow for a real cost reduction of 1 per cent per annum.***

Amendment 8 – Pricing principles: section 3.2.2 must be amended to comply with the revision in GSN’s responding submission (appendix 1, page 10).

Amendment 9 (b), (c) and (g) – Reference tariffs: the price proposal must be revised, based on the amendments to target revenue, pricing and metering required in this final decision. These include:

- GSN must inform all contract customers of the price applicable to them in each year of the Access Arrangement and the estimated/calculated MDQ***
- required revenue must equal the reference tariff multiplied by projected demand for each year***
- a volume customer identified as using more than 10 TJ of gas per annum is to be regarded as a contract customer.***

Amendment 10 – Demand forecasts: the demand forecasts should be amended as follows.

- a) Contract market: In 1999 (year 1), the forecasts for sales and demand for the contract market will be 834 TJ and 4470 GJ/MDQ respectively. For deriving the reference tariffs, the same level will be used throughout the Access Arrangement period.***
- b) GSN is to amend the Access Arrangement to incorporate one per cent growth per annum for volume customers (clause 3.5.2). In 1999 (year 1), the sales volume forecast is 755 TJ. This growth rate is to be reflected in the derivation of reference tariffs for the volume market.***

Amendment 11 – Overrun charges: section 6.3 of the Access Arrangement must be amended to reflect the revision on page 14 of Appendix 1 of GSN’s responding submission. The Tribunal requires GSN to notify each customer of its maximum daily quantity (MDQ) for 1996/97 and 1997/98.

Amendment 12 – Service policy: clauses 2.5(c) and (d) should be deleted.

Amendment 14 – Queuing policy: clause 5.2.4(c) should be amended so that GSN may seek confirmation from a prospective user that it wishes to continue with its request for service no more than once every three months.

Clause 5.3.3 (a) should be amended to follow the word “those” in the second sentence with “prospective users which hold a higher priority in the queue, but which are ...”.

In addition, the words in the brackets in clause 5.4.3(a) “which may be subject to GSN’s entering into a service agreement with other prospective users on the queue” should be deleted.

Amendment 15 – Gas balancing: the Tribunal requires the word, "have" to be inserted after “does not have appropriate rights to” in Clause 7.2 (c) (3).

Amendment 17 – Charge for trades: it should be amended so that the proposed administration fee of \$100 payable by both the buyer and the seller where a capacity trade takes place should be payable by the seller only.

Amendment 18 - Gas specifications: Appendix 7 should be amended in accordance with GSN's proposal that gas specifications in the Access Arrangement be based on its current gas supply contract with AGL. GSN is also required to state its commitment to seek to amend its Access Arrangement following any recommendations by the Gas Quality Specification Working Group for the adoption of a more flexible gas specifications in south eastern Australia.

Amendment 19 - Bonds: clause 2.6.3 should be amended to ensure that bonds or other credit security measures required as part of the reference service are applied in a competitively neutral manner. If this requirement is imposed, rules governing the imposition of bonds or other credit security measures are to be applied equally to all users of the system including GSN's related retailer, and should be stated clearly in the Access Arrangement.

Amendment 21 – Variation in reference tariffs: In order for GSN's Access Arrangement to be approved, clause 3.7 should be amended as follows:

3.7(a) replace this clause with:

The Reference Tariffs in this Access Arrangement are expressed in real 1999 dollars, and this is the rate that is to apply from the commencement of this Access Arrangement.

3.7(b) replace this clause with:

In future years, the Reference Tariffs will be varied in accordance with indexation of the components of the Reference Tariffs in the manner approved by the Relevant Regulator.

3.7(c) replace this clause with:

In addition to the annual variation detailed in Section 3.7(b) above, Great Southern Energy may vary, or the Tribunal may direct to be varied, the Reference Tariffs so as to recover:

- (1) any change in the reticulator's authorisation fee paid by Great Southern Networks in respect of the Network subject to any pass through of these costs taking place at the time that the annual variation of Reference Tariffs is made;***
- (2) any change in the level of any new government or statutory fee or tax, subject to:***
 - (i) the service provider's making application to the Tribunal proposing the change***
 - (ii) the Tribunal's having the discretion to appoint an independent auditor (at the Service Provider's expense) to ascertain the impact on Reference Tariffs before approving a change in Reference Tariffs in accordance with the independent auditor's advice.***

provided that any burden or benefit of any adjustment to the Reference Tariffs which Great Southern Networks is entitled to make under this section 3.7 will be allocated to users on the same basis that Great Southern Networks allocated relevant costs or similar costs to develop the Reference Tariff or in a manner prescribed by law.

Amendment 22 - Retail contestability: clause 3.9(c) should be deleted.

Amendment 25 – Arrangements with approved supplier: clause 4.4.5 should be amended to more clearly specify the following:

- the SoLR provisions do not operate to amend a Transport Services Agreement in order to provide a User with the right to deliver gas to a Delivery Point servicing an end use customer, where the capacity to serve that customer was previously controlled by another user.***

All references in the Access Arrangement to “Approved Supplier” should be replaced with “Existing Supplier”.

Amendment 26 – Trigger mechanisms: the following amendments to clause 12 are required.

- *The first sentence must be amended to allow for the possibility of more than one trigger event's occurring during the Access Arrangement period.*
- *Clause 12(a) should be amended so that this date is nine months before the commencement date for revision.*
- *Clauses 12(d) to 12(f) should be deleted.*
- *A new trigger mechanism should be added requiring GSN, within the period of one month following the development of a state or national policy for SoLR (as determined by the Tribunal), to submit revisions consistent with that policy.*
- *A new trigger mechanism should be added requiring GSN, within the period of one month following the development of state or national policy for the introduction of retail contestability to the tariff market (as determined by the Tribunal), to submit revisions consistent with that policy.*
- *A new trigger mechanism should be added to enable the Tribunal to reopen the Access Arrangement if GSN fails within a reasonable time, to seek an amendment to adopt new gas specifications following the recommendations of the Gas Quality Specification Working Group. A working group formed by the Australian Gas Association (AGA), the Australian Petroleum Production and Exploration Association, and the Australian Pipeline Industry Association is examining issues of gas quality in the eastern states of Australia.*

Amendment 27 – Period of transportation services agreement: clause 2.3.3 should be amended to provide a more clearly defined contract period for reference services. The Tribunal believes that in this case, contract periods between one and five years are acceptable. The Tribunal also requires the Access Arrangement to be amended to include GSN's statement that options to extend a contract do not form part of a reference service.

Amendment 28 – Negotiated service: clause 2.4(b) should be amended so that the first sentence includes words to the effect of: “may include, but are not limited to:”.

Amendment 29 – User default: clause 4.4.2(a) should be amended to include the following words in respect of the notification period: “as soon as practicable to do so after GSN gives notice of the default to the user ...”

Amendment 30 – Compensation for holding capacity: clause 5.5 should be amended to specify that the amount of compensation shall be no greater than the reference tariff. This clause should also stipulate that no compensation will accrue or be payable in the first 20 business days after an offer has been made.

Amendment 31 – Notification regime: clause 11.2.5 should be amended to provide for the curtailment of end use customers being served off an interconnecting network or pipeline. If there is an agreement between GSN and the operator of the connected third party system on load shedding, the user will be subject to that agreement. Otherwise, the user will be subject to Load Shedding Priority 2 as set out in Appendix 5 of the Access Arrangement.

Amendment 33 – Information concerning the network and existing users: clauses 13.1.1 and 13.1.2 should be amended to either specify the fees applicable, or refer to the relevant clause in the Access Arrangement where the fees are listed. The definition of 'prospective user' in

the glossary should be amended to mirror the Code, and the term 'consumer' should be changed to 'customer', as identified in the glossary.

Amendment 34 - Appendix 2- Transportation services agreement: Appendix 2 should be amended as follows:

- *sections 1 and 7 should specify requirements and standards*
- *section 11(f) should remove any reference to the trading of gas*
- *the last point in section 11 dealing with automatic novation should be deleted*
- *at the beginning of Section 13, the words, "Subject to any laws to the contrary", should be included*
- *section 14 should be amended to make it clear that the procedures outlined are intended for non access related disputes. The typographical error in the last point should be removed so that it is clear that an expert determination is binding, which the Tribunal understands is GSN's intent.*

5 TRIBUNAL APPROVAL

For the reasons expressed by the Tribunal in this Approval and Explanatory Information, its final decision and other published documents, the Tribunal approves:

- the Access Arrangement for GSN and
- the Access Arrangement Information for GSN under section 2.20(a) of the Code.

6 COMMENCEMENT DATE

Section 2.26 of the Code provides:

A decision by the Relevant Regulator under section 2.20(a) of 2.23 is subject to review by the Relevant Appeals Body under the Gas Pipelines Access Law. Subject to the Gas Pipelines Access Law, the Relevant Regulator's decision to approve the proposed Access Arrangement has effect on the date specified by the Relevant Regulator, which date must be not less than 14 days after the day the decision was made.

Subject to the Code and the Gas Pipelines Access Law, the Tribunal's decision to draft and approve the Access Arrangement and Access Arrangement Information for GSN has effect from 1:00 am, **1 October 1999** eastern standard time.

ATTACHMENT 1 SUBMISSIONS TO DRAFT ACCESS ARRANGEMENT

List of submissions

Organisation	Name	Date of submission
BHP	Mr Colin Martin	6 September 1999
Clayton Utz (on behalf of GSN)	Mr Paul O'Donnell	7 September 1999
Esso	Mr Stuart R Price	6 September 1999
GSN	Mr Leith Elder	6 September 1999
Ministry of Energy and Utilities	Mr Phillip Lee	9 September 1999
Public Interest Advocacy Centre	Ms Trish Benson	6 September 1999

Summary of matters raised in submissions

- Asset valuation
- Calculation of total revenue
- Pricing impact of fixed network charges on gas consumers
- Gas specification
- Mechanism for pass through of costs associated with contestability
- Revisions commencement date
- Price movement after expiry of Access Arrangement in the event of extension of decision at the next pricing review
- Regulation of miscellaneous charges in delivered gas tariffs.

The Tribunal considered the above submissions at a meeting on 9 September 1999.