DRAFT DETERMINATION

on the

PROPOSED ACCESS UNDERTAKING

of

AGL GAS COMPANY (NSW) LIMITED

INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

DRAFT DETERMINATION

on the

PROPOSED ACCESS UNDERTAKING

of

AGL GAS COMPANY (NSW) LIMITED

September 1996

Comments or enquiries relating to this document should be directed to

Scott Young (☎ 02 9290 8404)
Gary Drysdale (☎ 02 9290 8477)
Sally Mander (☎ 02 9290 8406)

Comments may be sent by fax to ☎ 02 9290 8466

Independent Pricing and Regulatory Tribunal of NSW
Level 2, 44 Market Street Sydney NSW 2000
Tel (02) 9290 8400 Fax (02) 9290 8466
All correspondence to: PO Box Q290 QVB POST OFFICE SYDNEY NSW 1230

DRAFT DETERMINATION

on the

PROPOSED ACCESS UNDERTAKING

of

AGL GAS COMPANIES (NSW) LIMITED

ERRATA

The second last paragraph on page 38 of the above captioned document should read as follows (correction in **bold**):

"A Contract Administration charge is proposed. It is proposed to be levied on users on a monthly basis. The charge would be affected by a customer's annual gas usage. However, this is a fairly arbitrary and possibly inequitable relationship. AGL proposes charging a user $4,183 **per year** for load up to 100 TJ per year and $8,366 **per year** if usage is greater than or equal to 100 TJ per year. These charges are intended to approximate the fixed administration costs per customer which may vary with site size, customer size, and the sophistication or complication of contracts."

FOREWORD

The New South Wales Government has passed legislation providing for third party access to natural gas distribution networks in the State. An important requirement imposed on network service providers is the establishment of approved access Undertakings that provide detailed operating procedures and rights in respect of that network.

A network service provider's Undertaking is established once it is approved by the Tribunal. The Tribunal is required to determine whether the proposed Undertaking complies with the requirements of the Gas Supply Act, 1996 and the Third Party Access Code for Natural Gas Distribution Networks in NSW, as gazetted on August 30th 1996.

It needs to be stressed that the overriding objective in providing access to distribution networks is to facilitate competition in upstream and downstream markets**. Access to these networks is a means to an end; it is not an end in itself.** The main benefits to New South Wales from third party access should flow from competition amongst alternative sources of natural gas, leading to reductions in the commodity price of natural gas.

AGL Gas Company (NSW) Limited (referred to as AGL in this draft determination) has submitted for approval the proposed Undertaking that it intends to apply to its distribution network. That Undertaking covers a range of matters related to the terms and conditions that will apply to parties wishing to use the AGL natural gas distribution network. The Tribunal is issuing this draft determination to outline its views on the Undertaking as an input to its subsequent public consultation process. The determination will be finalised having regard to the information and views received though this consultation.

Release of this draft determination follows 12 months of extensive public consultation by the Tribunal (and the Gas Council before it) with key stakeholders regarding third party access to the natural gas distribution networks in the State. The current consideration of the proposed Undertaking by AGL also reflects the culmination of a great deal of work by the Tribunal and the Gas Council over this period.

While there are many details regarding the terms and conditions of access in the proposed Undertaking, the Tribunal has been particularly concerned with the issue of a "reasonable" overall revenue requirement and associated structure of charges for use of the distribution network.

A "reasonable" revenue requirement will cover the efficient costs of operating the network together with an "appropriate" return ***of*** capital (depreciation) plus return ***on*** capital to the network owner. Within the limits of market circumstances, the interests of the network owner are better served by a higher revenue requirement and the interests of network users as a whole are better served by a lower revenue requirement.

Similarly, the interests of some network users might be better served by one particular structure (for example, one which is less sensitive to distance from a trunk main) and less well served by another particular tariff structure. The network owner will be concerned to ensure that the tariff structure reduces the risk of assets being "stranded" or under-utilised.

As noted in the Gas Council's January 1996 Report on Third Party Access, one of the main responsibilities of the Regulator is to have regard to a ***"reasonable balance of interests"*** amongst the various stakeholders as third party access to natural gas distribution is opened up.

The consultation carried out between AGL and the Secretariat of the Gas Council and Tribunal suggests that the revenue path and the associated tariff structure in the proposed Undertaking meet the “reasonable balance of interests” test with respect to the owner and the users of the distribution network. The Tribunal is therefore of a mind to accept this finding subject to consideration of information and views disclosed through the public consultation process.

Importantly, the Gas Council in its Inquiry recognised the need to grow the market in order to deal with the potential take-or-pay and actual cross-subsidy issues surrounding the natural gas market in NSW. The Tribunal accepts that in the initial review period it is appropriate to provide strong incentives to the network operator to increase utilisation of the system to deal with these issues.

It is worth noting that the likely network revenues associated with the Reference Tariffs represent a 27% real reduction in average prices for contract customers across AGL’s distribution network over the next 3 years. Some existing direct users of the network will enjoy greater reductions in transport costs; others will enjoy less. Even though the transport component on the distribution network accounts only for around 20-25% of the total cost of delivered gas, such average reductions will play some part in lowering the overall cost of natural gas in the State. AGL’s merchant arm as a direct customer of the network will receive the benefit of the reduction in average transportation rates. Reflection of this in final prices for non-contestable users will be a matter for negotiation between those customers and AGL’s merchant arm.

In the final analysis, the Tribunal believes that open access to distribution networks is a means to greater competition in the supply of natural gas to end customers. It is overall reductions in delivered gas costs, comprising transport and the commodity costs themselves that are of ultimate significance.

The Tribunal believes that the proposed Undertaking provides an important first step in this process and welcomes comments on the Undertaking and this draft Determination.

Thomas G Parry
Chairman
September 1996

TABLE OF CONTENTS

GLOSSARY AND ACRONYMS

ABARE	Australian Bureau of Agricultural and Resource Economics.
ACCC	Australian Competition and Consumer Commission.
Access Undertaking	The document by which a distributor undertakes to provide access to its system by system users, per section 20(1) of the *Gas Supply Act 1996*.
Aggregators	Gas brokers which group separate customers to arrange gas supply at a discounted rate.
AGLGC	AGL Gas Company (NSW) Limited, also referred to as AGL.
AGL Merchant	The division of AGL carrying out the gas merchant function, as distinct from the network operator function.
AGL Network Operator	The division of AGL carrying out the network operator function, as distinct from the gas merchant function.
Backhaul	Supply of gas to a customer located upstream of the gas source which has been designated to supply that customer.
Backstop	Supply of gas by a utility in the event of a transporter's failure to supply.
Brokerage	Purchasing goods or services and on-selling them, or acting as a commission agent for the final purchaser.
Bypass	Construction of a pipeline to avoid the distribution system or part thereof.
CAPM	Capital Asset Pricing Model, a financial model that relates the required return of an asset to the risks associated with that asset.
CIAC	Contributions in Aid of Construction.
City Gate	Transition point from high pressure transmission pipelines to distribution network.
CoAG	Council of Australian Governments.
Contract Gas User	Gas user consuming more than 10 TJ per annum.
COS	Cost of service.
CPA	Competition Principles Agreement.
CPI	Consumer Price Index.

CPRA	*Competition Policy Reform Act 1995.*
Distribution	Transport of gas over a combination of high pressure and low pressure pipelines from a city gate to various customers' usage points. Also known as reticulation.
DORC	Depreciated Optimised Replacement Cost, an asset valuation approach that reflects both the age of the assets and the required size of the assets.
EAPL	East Australian Pipelines Limited.
GCRA	Gas Customers Reserve Account.
GJ	Gigajoule, a measure of the heat content of gas (an average residential customer in NSW consumes approximately 20 GJ of gas per year.)
Goldline	Rehabilitation program in which nylon pipes are inserted in the old cast iron mains.
GTC	Gas Transmission Corporation of Victoria
GTE	Government Trading Enterprise
IPART	Independent Pricing and Regulatory Tribunal of NSW, otherwise referred to as the Tribunal.
LGA	Local Government Authority
Load factor	A measure of the degree to which a customer's load can cause peak demands on the system, measured as the relationship between the customer's average daily demand and its peak day demand.
LPG	Liquified Petroleum Gas.
MDQ	Maximum Daily Quantity.
MHQ	Maximum Hourly Quantity
MSPSS	*Moomba to Sydney Pipeline System Sales Act, 1994.*
NCC	National Competition Council.
NGMC	National Grid Management Council.
ODV	Optimised Deprival Value.
OFGAS	UK gas industry regulator.

PAC tax	Victorian Public Authorities Contribution tax.
PCF	Price Control Formula.
PJ	Petajoule, equal to 1,000,000 GJ.
Retail	Selling gas as a commodity, independent of transportation service.
Reticulation	See Distribution.
Ring fence	Clear separation of subsidiaries or divisions of a company that may be viewed as having competitive advantages in their dealings with each other.
SACB	South Australian Cooper Basin.
SERDF	State Energy Research Development Fund.
Swap	Arrangement whereby competing suppliers agree to supply each others' customers.
SWQ	South West Queensland
Tariff Gas User	Gas user consuming less than 10 TJ per annum.
TJ	Terajoule, equal to 1,000 GJ.
TOP	Take-or-pay.
Transmission	Long haul transportation of gas via high pressure pipelines.
Trunk mains	High pressure pipelines within the distribution network used to transport large quantities of gas to sections of the network downstream from the city gate.
WACC	Weighted Average Cost of Capital.

1 INTRODUCTION

The Competition Principles Agreement (CPA) between all Australian governments provides for the encouragement of competition through arrangements for major or monopoly suppliers providing access to third parties for the use their infrastructure assets. In the gas industry, this means that arrangements will be made so that third parties can use existing gas networks to deliver gas to customers.

The CPA requires the development of an open access regime for each industry. This document forms part of the public consultation process that will result in the development of an open access regime for gas distribution networks in New South Wales.

Under the NSW regime Access Undertakings are to be prepared by network operators. To assist the public consultation process the Independent Pricing and Regulatory Tribunal (IPART) is required to provide a draft Determination setting out its views on each Undertaking.

The purpose of this draft Determination is to outline the components of AGL's proposed Access Undertaking and the Tribunal's preliminary findings on that Undertaking. It should be noted that this draft Determination will be the subject of further deliberations by the Tribunal following the study of comments received from interested parties in response to the consultation and public hearing process.

AGL's proposed Access Undertaking has been prepared following lengthy consultations between AGL and the Tribunal. As a result of this ongoing process, the Tribunal favours many of the positions put forward in the proposed Undertaking. Where the Tribunal has reached a preliminary acceptance of an issue, words to that effect are included in this draft Determination. Such views are, of course, subject to consideration of information obtained through then public consultation process.

Although this document focuses particularly on the proposed Access Undertaking of AGL, many of the principles outlined herein are expected to have further applications.

The Tribunal welcomes comments from interested parties on any aspect of AGL's proposed Access Undertaking and this draft Determination, particularly where no preliminary acceptance of an item has been noted.

1.1 Structure of this draft Determination

This draft Determination is divided into two main section:

(1) The first section, comprising chapters 1 through 3, discusses the NSW Gas Access Regime in generic terms. This section also discusses the Tribunal's approach to pricing.

(2) The second section, comprising chapters 4 and 5, focuses on AGL's proposed Access Undertaking. This section commences with the application of the Tribunal's pricing principles to services provided by the AGL gas distribution network, and includes a discussion of the other issues necessary to the development of an access regime.

2 NSW REGULATORY ENVIRONMENT

2.1 Introduction

The Tribunal considers that the general approach to access arrangements outlined in the Competition Principles Agreement (CPA) needs to be adopted for NSW gas distribution networks. In the event of a dispute, the CPA advocates an access regime based on negotiation between the parties, with binding arbitration on a case-by-case basis. The Tribunal believes this approach may need to be supported through guidance on pricing principles or reference prices. Otherwise, protracted, high cost arbitration may result which could prove to be an effective barrier to competition.

This section outlines the regulatory environment applying to third party access to gas distribution networks in NSW. It describes the elements of the NSW regime, its coverage and the transitional timetable for competition. Benefits of gas reform are also briefly outlined.

2.2 The NSW Access Regime

The NSW Gas Access Regime is consistent with the national competition principles while taking account of the particular needs of the gas industry and users in NSW. The regime has four components:

1. *Gas Supply Act 1996*

2. NSW Access Code

3. Network Specific Access Undertakings

4. Regulatory Framework

2.2.1 Gas Supply Act 1996

This Act provides the broad parameters for third party access in NSW. Some important features include:

- the appointment of the Tribunal as the Regulator and arbitrator of third party access for gas distribution

- the establishment of two types of authorisations for suppliers and network operators

- the provision of third party access rights through the adoption of an Access Code.

2.2.2 NSW Access Code

The Gas Supply Act provides for the Minister to gazette an Access Code that establishes a high level framework for the regulation of third party access to gas distribution networks.

Due to the uncertainty of the timing and final form of a National Access Code for gas transmission and distribution, the NSW Government has decided to proceed with the gazettal of an interim NSW version of the code. The NSW Access Code is largely based on the Exposure Draft of the National Access Code prepared by the Council of Australian Governments (CoAG) Gas Reform Task Force. However, there are some important differences that reflect NSW Government policy and the Tribunal's approach to price determination.

The Tribunal believes that the pricing section of the Exposure Draft focuses too heavily on the asset valuation and rate of return approach to price determination. A more flexible approach is needed where the Regulator is able to consider a range of financial and other indicators in determining the revenue requirement and hence reference prices. The Tribunal's approach is outlined in Section 3 of this paper.

It is hoped that once a National Access Code has been developed and approved by all jurisdictions, it will be adopted by NSW. The Tribunal understands that the earliest a National Code might be adopted would be November 1996.

2.2.3 Network Specific Access Undertakings

Access Undertakings set out detailed operating procedures and rights in respect of each network. Cost reflective reference prices for network services are also included in the Access Undertakings and may be used directly or may serve as a basis for negotiating prices applicable to individual circumstances.

Access Undertakings are developed by network operators and must comply with the legislation and the Access Code. They are not operational until they have been approved by the Tribunal following public consultation.

Network operators whose services are declared are required to establish appropriate Access Undertakings within the period specified in the Gas Supply Act (ie within three months or a longer period at the discretion of the Tribunal).

As part of the regulatory process the Tribunal is required to issue a draft determination for each proposed Undertaking setting out its views on the Undertaking as an input to its subsequent public consultation. The determination is then finalised after such consultation has been completed.

In the event of a network operator failing to establish an approved Undertaking in the set time frame, the Tribunal may issue an Access Order setting the conditions of third party access consistent with the NSW Access Code.

2.2.4 Regulatory framework

The Regulatory Framework will establish how the Tribunal may apply the relevant legislation and Access Code to gas distribution networks in NSW. This document will be prepared after the present public consultation period has concluded.

2.3 Coverage and transitional timetable

2.3.1 Coverage

For the purposes of third party access, the NSW Government decided to declare the gas distribution network services provided by AGL and Albury Gas Company. As a consequence these companies are now required to establish appropriate Access Undertakings as outlined above.

At this stage, the Government has not declared the gas distribution network services provided by Wagga Wagga City Council. It is understood that this decision takes into account such matters as:

- the severity of Wagga Wagga City Council's take-or-pay (TOP) contract with AGL

- Wagga Wagga's existing customers will not generally be eligible for third party access until July 1997.

Although it may be argued that gas distribution networks like that operated in Wagga Wagga are not nationally significant, these networks are unlikely to be duplicated by competitors and are as such effective monopolies. For this reason, and in the interests of competitive neutrality, the Tribunal currently believes that Wagga Wagga City Council's network should be open to third party access by July 1997. The Tribunal therefore intends to seek coverage of this utility early in 1997.

The ACCC oversees access to the EAPL transmission pipeline from Moomba to Wilton under the *Moomba to Sydney Pipeline System Sales Act, 1994.*

2.3.2 Transitional timetable for competition

The need to phase the introduction of competition has been the subject of much debate. Proponents of phased introduction (including Australian Gas Association, AGL and Wagga Wagga City Council) argue that a transitional period is necessary to address such issues as the removal of cross subsidies and the potential impact of TOP penalties.

The Tribunal is firmly of the view that transitional arrangements should not unduly delay the development of third party access to NSW distribution systems. A short transitional period has been adopted in NSW that is generally consistent with that planned for the NSW electricity industry. The precise details are outlined in the Gas Supply Amendment (Definitions and Transitional Provisions) Regulation 1996 under the *Gas Supply Act*. However, a summary table is provided for information.

Third Party Access Timetable - Contract Market

YEAR	LOAD CATEGORY
30 August 1996	New & existing loads $\geq$ 500 TJ per year & new load in defined greenfield areas
1 July 1997	New & existing loads $\geq$ 100 TJ per year with some aggregation allowed
1 July 1998	New & existing loads $\geq$ 10 TJ per year

Customers who use less than 10 TJ per year form the tariff market. It should be noted that a precise date for opening up the existing tariff market to full competition has not been set. However, it is understood that the Government's intention is for this to happen at the same time this sector is opened to competition in the electricity industry. This is currently planned for sometime between July 1999 and July 2000.

The NSW Government has determined that some aggregation of contract load will be allowed as follows:

- From 1 July 1997 aggregation of contract load will be permitted between end users that can demonstrate the same corporate ownership and use a combined total load equal to or in excess of 100 TJ per year. No tariff load is to be included in this calculation since these sites will not be eligible for third party access.

- From 1 July 1998 any form of aggregation of the contract market will be permitted.

One area where there is a slight difference between the electricity and gas timetables is in respect of greenfield sites. For the purposes of third party access, greenfield sites are those that, in the opinion of the Tribunal, form significant extensions of the existing natural gas networks or are new distribution systems. In these circumstances, all users (contract and tariff) are entitled to third party access. The NSW gas distribution network is not extensive when compared to the electricity grid and for this reason greater competition is being encouraged.

2.4 Access - overview

The NSW natural gas distribution system exemplifies the essential facilities to which the access provisions of the national competition policy package are intended to apply. Distribution networks are natural monopolies in the sense that they cannot be duplicated economically. The NSW networks are strategically placed in the NSW natural gas industry, because gas suppliers or customers must transmit their gas through the networks. Access to the networks is essential to guarantee increased competition in both upstream and downstream markets.

The broader impacts of introducing third party access in gas, and associated policy issues, were discussed in more detail in the Gas Council's January 1996 report entitled "An Inquiry into Access to Natural Gas Distribution Networks of NSW".

2.4.1 Benefits of reform

Benefits likely to arise as a result of access to gas distribution networks include more efficient use of facilities and more efficient allocation of resources. Prices will better reflect the value of the resource. Competition in the industry will promote innovation and efficiency. Competition is particularly important in influencing production and consumption decisions. Where the price of gas has been too low, such as in the tariff market, artificially stimulated demand has resulted in inefficient additions to infrastructure and losses to the provider which have been offset by unnecessarily high prices in another market. Where the price has been too high, such as the contract market, demand has not reached its full potential. While an increase in consumption will occur as a result of lower, more cost reflective prices, more efficient production decisions can be made and infrastructure can be used more efficiently. This is likely to result in product prices which better reflect the value of the resources used and increase the competitiveness of industry. More efficient use of infrastructure could result in further reductions in the price of gas.

In meeting the objectives of efficiency and competition in the industry there are always some winners and some losers. The Tribunal's preferred access regime balances the various objectives by recommending pricing principles and Reference Tariffs which are open to negotiation. This strategy will ensure that customers with access to alternative supplies or alternative energy sources will be able to negotiate more competitive outcomes, but such gains will not affect customers who are not contestable.

Opening up access to distribution networks is essentially a way of facilitating competition in both upstream and downstream markets. The transportation of gas to final customers is only one stage of this competitive process. Major competitive gains in gas production and transmission must be made if customers are to benefit from this process.

2.4.2 Impact on tariff customers

During the first review period most tariff customers will not feel the effects of third party access. The transitional timetable is such that tariff customers will generally be unable to choose other suppliers until about 1999 - 2000. Until this time existing tariff customers will continue to be supplied by AGL tariff merchant and bundled prices will continue to be regulated under the Price Control Formula (PCF).

Currently, the PCF restricts AGL from increasing average prices by a percentage greater than CPI - 1.5%. This ceiling will be maintained despite the existence of substantial cross subsidies between the contract and tariff markets. The Tribunal has successfully avoided the need for any large tariff increases through the development of transitional measures and incentives to AGL to grow the market. These measures will substantially remove the cross subsidy in the next three years.

Beyond 1999/2000, tariff customers will be able to choose their gas supplier and may obtain additional benefits resulting from increased competition.

2.4.3 Environment

Natural gas is widely recognised as a more environmentally friendly fuel than other non-renewable energy sources. Emissions into the atmosphere from natural gas are much less per energy unit than for electricity or coal and a little less than liquefied petroleum gas (LPG). Any substitution of natural gas for these other energy sources will be beneficial to the environment. Competition in the natural gas market will increase the competitiveness of natural gas as an energy source useful for many applications.

2.4.4 Competition between fuels

The Tribunal is aware of current efforts to create a national market for both electricity and gas supply. In the medium term, gas and electricity utilities may move together towards becoming energy suppliers rather than being limited to one particular form of energy. It is important that, where appropriate, the gas access regime be consistent with developments in electricity and that the same ground rules be set for energy utilities generally.

Competition in the natural gas market in NSW is currently limited to competition between energy sources**.** Natural gas-to-natural gas competition does not occur in the supply, transmission, or distribution of natural gas in NSW. Authorisations of gas network operators are for specific and distinct geographical areas, although these authorisations are not exclusive.

In the domestic market, natural gas competes with electricity. Here, gas faces a significant barrier to market entry because, whereas electricity is supplied to almost every home, gas must be connected and this involves an additional cost. In the industrial market, gas competes with coal, oil and naphtha as a feedstock, whereas electricity tends to be used for power or high value processes for which there is generally no gas technology. One potential area for gas/electricity competition is electricity co-generation whereby companies can operate a gas fired co-generation plant providing electric power and heat.

As alternative energy sources, electricity and gas do not compete on price alone. They also compete in other areas such as quality of service and environmental benefits.

3 PRICING PRINCIPLES

3.1 The IPART approach to pricing

Third party access is not an end in itself; the Tribunal believes that the aim of third party access is to facilitate competition in gas markets. In order to ensure a smooth and timely transition to third party access, the Tribunal is inclined to look for a “reasonable balance of interests” amongst the market participants; that is, direct participants (producers, retailers, large customers and reticulators) and indirect participants (AGL’s tariff market customers).

At least during the first regulatory period, until July 1999 there needs to be a balance between market participants to help ensure the overall objective of third party access - free and fair trade in gas - can be attained without inappropriately impacting on market participants’ legitimate interests.

3.2 Summary of Preliminary Conclusions

With this in mind, the Tribunal has reached the following preliminary conclusions relating to the major potential consequences of third party access on the AGL system:

3.2.1 Fair “profit” to infrastructure owner

It must be recognised that the infrastructure owner is one of the parties to whom the "reasonable balance of interests" principle must apply. Failure to ensure a reasonable level of profit for the infrastructure owner reduces the network owner's ability to compete for capital in the marketplace and increases the risk of declining investment in the pipeline system. The result may be lower growth for the gas market and the possibility of reliability being compromised. Of course, there will always be debate as to a "fair" level of profit for the infrastructure owner.

3.2.2 Fair cost reflective prices for system users

"Fair" is defined differently by the various players in the market, each of which has its own perspective. Indeed, a "fair" price determined through negotiations is often evidenced by an equal amount of "unhappiness" all round. The Regulator recognises its mandate to maintain an overall view of the market in order to balance the diverse interests of system users to arrive at fair Reference Tariffs.

It is important to remember that the overriding objective is to facilitate access to the distribution network; it is not to rebalance transport tariffs, *per se*. The tool in this regard is to develop simple and certain price structures which will need to have some regard to the starting position.

3.2.3 Scope for negotiation

The determination of "fair" Reference Tariffs by the Regulator in no way precludes a customer and the service provider from entering into negotiations to determine an alternative price which reflects cost and market conditions.

Within the framework of access pricing principles, negotiation is a vital element. Negotiation between the parties will provide sufficient flexibility to:

- avoid unnecessary duplication or bypass of the system
- retain those customers which would otherwise switch to alternative fuels
- tailor gas service contracts to customers' individual needs.

Reference Tariffs will allow benefits to flow from competition and negotiation, but not at the expense of customers which are not contestable. An approach with relatively prescriptive elements, such as Reference Tariffs, will help ensure that the full competitive potential of the market is exploited. The Tribunal is concerned that, in the absence of some form of regulation or reference prices, reliance on negotiation may provide scope for shifting monopoly rents, rather than eliminating them. However, the Tribunal recognises that reference prices will not suit all circumstances. Hence, scope for negotiation is essential.

It should be recognised that scope for negotiation carries with it the possibility that different customers could pay different prices for transport services. This is a fundamental component of a "negotiate and arbitrate" approach for access to infrastructure assets.

3.2.4 Reliance on a range of financial indicators

The Tribunal favours an approach to initial asset valuation and the ongoing determination of revenue requirement that has regard to a broader range of financial indicators. The Tribunal rejects strict reliance on "return on rate base" as the driving determinant of asset valuation and the revenue requirement of the network.

The Tribunal recognises the circularity inherent in determining revenues dependent on the value of an asset base whose value is in turn reliant on the revenue stream. Therefore, the Tribunal considers that it is critical to take a consistent approach to the valuation of the assets and the determination of the revenues that will ultimately determine asset values.

In order to develop a robust conclusion, the Regulator must be able to cross-check revenue scenarios against a range of financial indicators. In the Tribunal's approach as outlined below, the rate of return on the regulatory asset base is used as an indicator of reasonableness, not as the driver of the rate determination process.

The use of indicators based on publicly available or easily accessible information reduces the problems of information asymmetry prevalent in regulatory regimes around the world. The Tribunal has taken the view that reliance on any single indicator may distort the regulatory framework by encouraging inappropriate behaviour. For example, with the classic rate base/rate of return model, the infrastructure owner has an incentive to invest in physical assets ("gold plating") in order to increase its profits. A broader focus reduces the incentive for an infrastructure owner to enter into gaming behaviour in order to influence one particular revenue driver. This is not to suggest that the return on the regulatory rate base will not be used in the final analysis, but that it should be only one factor in the suite of indicators examined by the Regulator.

The financial indicators applied in the Tribunal's determination have been chosen on the basis of relevance, availability of information, and common usage in the financial community. Any indicators included in any national or international benchmarking analysis were also considered. Attention was given to cash based measures (particularly where the objective is to determine the appropriate opening asset valuation) and, where possible, indicators in wide use in the financial markets.

The Tribunal considers that a broad approach is appropriate both in determining the opening regulatory value of the existing assets, and as a means of assessing the reasonableness of the network operator's revenue requirement on an ongoing basis. The Tribunal does not consider that it will necessarily be appropriate to set the opening regulatory asset valuation and revenue requirement at a level that maintains the historical level of the performance indicators. This is particularly true where the level of those indicators reflects the extraction of monopoly rents from the network system. This consideration must be balanced with the Regulator's responsibility not to jeopardise the financial integrity of the infrastructure owner.

Determining a sustainable revenue stream by referring to a broad range of indicators should not reduce the incentive of the network operator to outperform the forecast sustainable revenue stream. **Indeed, to the extent that the network owner can achieve better results than those assumed in the development of the revenue stream (particularly in the areas of cost reductions and improved utilisation of the system), the market value of the network assets will be enhanced.**

The Tribunal welcomes comments from industry participants to assist the Tribunal in developing a robust suite of financial indicators for future price determinations.

3.3 Summary of approach

The Tribunal's approach can be summarised in general terms, as follows:

- The Tribunal will review the current and historical performance of the network owner, in the light of various economic and financial performance indicators. The network owner's performance will be assessed relative to relevant benchmarks. Performance will be measured against those benchmarks over time. The review will include an analysis of any trends revealed by the indicators over time, combined with discussions with the infrastructure owner to determine the reasons for such trends.

- Some of these measures, particularly those related to bond ratings, will require the Regulator to assess the infrastructure owner’s risk relative to the environment in which it operates. This risk assessment will be critical to determining the rate of return by which a sustainable revenue stream will be discounted in order to establish the value of the initial regulatory asset base.

- The indicators will be used to develop a forecast for a sustainable revenue stream. This will then be the subject of a present value analysis which will determine the opening value of the regulatory asset base. It should be noted that, in determining the opening regulatory asset value, the Tribunal will be required to make assumptions about the future price path and load growth beyond the current review period.

- An important component of a sustainable revenue stream is a forward looking price path. The Tribunal will determine the sustainable revenue stream in conjunction with the price path. This is likely to involve an iterative process, testing the sensitivity of the financial indicators to different forecast price paths. In selecting a price path, the

Tribunal will consider the objective of removing cross subsidies from the system over time.

- The total revenue requirement for each year of the price review will be determined by selecting a price path and forecasting customer and load growth, and future operating costs.

- This revenue requirement will then be allocated to different services based on the cost drivers for the service. The Tribunal has adopted the principle that, in general terms, customers should not pay for assets they do not use. For example, customers served from the trunk system should not pay for the primary or secondary system. However, the Tribunal considers that cost allocation needs to be tempered by the practical requirements for averaging and simplification.

- Reference Tariffs will then be designed to respond to the cost drivers of the system. For example, costs that are variable in nature should be recovered through a variable component of the tariff. Conversely, costs that are fixed in nature should be recovered through a fixed charge. Unique characteristics of the customer groups will also be considered at this point. For example, if a particular group of customers is able to demonstrate viable bypass opportunities, the tariff structure will be designed to address that risk. Part of the tariff design process is an impact analysis which determines the extent of any rate shock, and examines if a change to the rate design parameters benefits or disadvantages any particular customer group unreasonably.

- A final check is then completed to ensure that the Reference Tariffs will generate the revenue requirement at the forecast customer and volume levels.

4 APPLICATION OF PRICING APPROACH TO AGL

4.1 Overview

Generally speaking, the approach taken by the Tribunal consists of the following steps:

(1) Determine the revenue requirement with regard to:
  - (a) a sustainable revenue stream, considering
    - (i) the suite of financial indicators, including a reasonable rate of return
    - (ii) the proposed price path
  - (b) the Initial Capital Base

(2) Derive Reference Tariffs with regard to:
  - (a) the cost drivers relevant to the system
  - (b) other factors that must be considered:
    - (i) tariff structure
    - (ii) bypass risk
    - (iii) negotiated decrement customers.

This process is discussed in more detail below.

4.2 Revenue requirement

To some extent, the application of the Tribunal's pricing principles to the AGL system has been an iterative process. This has been necessary to reach a price path and revenue requirement which achieve a reasonable balance of interests among market participants. In the past, tariffs for the contract market were set with reference to the alternatives available to a particular customer. Price paths in the tariff market were set in a politically influenced environment. The cost based approach marks a departure from either of these prior methodologies, and thus required considerable effort on the parts of both AGL and IPART.

4.2.1 Sustainable revenue stream

In determining a sustainable revenue stream, the Tribunal reviewed the past and forecast performance of the distribution network at current prices, against a broad range of financial indicators. The range of financial indicators is discussed in more detail in section 3.2.4. The particular indicators applied, and their forecast values, are shown in Appendix I.

The Tribunal conducted a sensitivity analysis on a range of price paths to determine their effects on the financial indicators. This sensitivity analysis was necessarily conducted on the total revenues to be derived from market segments (contract and tariff). During this sensitivity analysis, the Tribunal took special notice of the effect of those pricing assumptions on inter-class cross subsidies.

The Tribunal then reached a preliminary conclusion on an appropriate price path and sustainable revenue stream, having regard to the results of the range of financial indicators. It should be noted that a significant number of iterations were required in this step, as different price paths had different effects on the revenue stream. For example, it was possible to implement real price decreases in the double digit range in the first two years of the price path when AGL would be earning additional revenues from the transport load for the Sithe Energies cogeneration project. This new load prevented the price decreases demonstrated in AGL's Undertaking from having an unduly negative effect on AGL's performance indicators.

This step also required the probable loads to be transported for each segment of the market to be assessed to determine any additional revenues associated with market growth. These forecasts of load and customer growth were determined to be responsive to the Tribunal's incentive plan to enable AGL to grow its market sufficiently to reduce potential exposure to take-or-pay liabilities and to reduce the cross subsidies. These incentives are discussed more fully in section 4.2.6.

4.2.2 Forecasts and assumptions

To determine the forecast revenue requirement, it is necessary to make assumptions about the future operating characteristics of the distribution system. These assumptions are based on the anticipated results of active programs planned or in place (such as the extension of the gas distribution network to the Blue Mountains), contracts in place with future commencement dates (such as the Sithe Energies transportation load), observable trends (such as the decline in real operating costs per customer), and on the requirements of stated incentive programs (both in cost reduction and load growth).

Inevitably there are issues on the horizon whose outcomes are still uncertain at the time of determining reference prices for the distribution system. Consistent with the Gas Council report of January 1996, the Tribunal considers that the current review period is short enough to address any uncertainties related to other pipelines connecting to the distribution system, other sources of gas becoming available to customers, or other major loads joining the system.

The specific assumptions used to determine the revenue requirement are discussed below. It should be recognised that these forecasts and assumptions will be revisited at the next price review. New forecasts will then be developed that will respond to the experience of the market during the period of the first price review. AGL has sufficient revenue incentives to increase loads in the market. Therefore, all customers will benefit at the next price review through AGL's efforts to increase loads on the system, and to reduce operating costs per customer.

The growth rate of the number of customers in the tariff market has been assumed at 2% per year. The average load per domestic tariff customer has also been assumed to grow at a rate of 2% per year. These assumptions reflect the need to address cross subsidies through growth in the tariff market, and also to determine the incentives to be provided to AGL to grow that market, as discussed in section 4.2.6.

For the purposes of the current price determination, no growth has been assumed in either the number of customers or the average load per customer in the contract market. Combined, the growth assumptions for the contract and tariff market result in total gas consumption volumes consistent with the projections produced by ABARE[1] for the period under review.

---

[1] Australian Bureau of Agricultural and Resource Economics, "Australian energy consumption and production - *historical trends and projections to 2009-10*" ABARE Research Report 95.1, Canberra, 1995.

The cogeneration load of Sithe Energies is forecast to come on line over two fiscal years, half in the 1996/97 fiscal year, and the remainder the year following. The price, volumes and revenues agreed to in the Sithe contract have been taken into account for the purposes of determining the revenue requirement.

The Tribunal has also assumed that controllable costs per customer will decrease in real terms. For the purposes of this price determination, it has been assumed that nominal increases in controllable costs per customer will be limited to CPI-2.

4.2.3 Contract market revenue path

After undertaking the analysis described above, the Tribunal and AGL agreed to a forward looking revenue path expressed as "CPI- 13, 10, 7". This expression summarises the contract market price path. Revenues for contract market transportation services are to be reduced by 13% in real terms in the first year of the price path, by an additional real 10% in the second year, and by a further real 7% in the third year. A price review will be conducted after year three, at which time the contract market revenue path will be revisited. It should be noted that the Tribunal has assumed further decreases in the contract market revenue path beyond year three in the valuation of the Initial Capital Base discussed below in section 4.2.9.

This price path must be responsive to a particular definition of "CPI". For the purposes of the Reference Tariff determination, CPI at a particular July 1 is the “Consumer Price Index: All Groups Index Number” for Sydney, as published by the Australian Bureau of Statistics for the quarter ended the preceding March 31, divided by the corresponding index number for the quarter ended on March 31 of the year before that, expressed as a decimal fraction. The Reference Tariffs for Year 1 of the three year price path were determined using a forecast of CPI.

The price path is stated in terms of aggregate reductions in contract market revenues, not in terms of reductions to individual contract transportation tariffs. With current tariffs based on a broad range of negotiated outcomes and the new Reference Tariffs based on the cost of service, different customers will experience different price moves from their current tariff to the Reference Tariff. Reference Tariffs are published in AGL's Access Undertaking, Schedule D.

The price path described above provides for a 27% real reduction in overall contract market transportation prices in the first three years of open access.[2]

4.2.4 Gas Customers Reserve Account

Over a number of years up to 1985, AGL and its subsidiaries undertook several transactions which resulted in AGL's realising significant capital gains amounting to some $234 million. The then Minister for Mineral Resources and Energy concluded that AGL’s consumers had contributed some of the financial assistance and borne some of the risk associated with AGL’s investments and, accordingly, should share in these capital gains. A commercial solution was reached, in which the Government and AGL agreed that the customers should benefit to the amount of $134 million.

[2] While the simple sum of the "X" factors is 30%, the real reduction in average prices will be 27%. This reflects the lower base level for the percentage reduction in years 2 and 3.

This sharing was accomplished through a book entry which transferred the $134 million to the Gas Customers Reserve Account (GCRA). It is important to note that, as an accounting transaction, there are no funds associated with the GCRA. Any use of the GCRA as a transitional tool will require AGL to raise funds in the marketplace. The effect of this fund raising requirement is discussed further in section 4.2.7.

The GCRA is discussed in this section because the Tribunal has approved part of the GCRA to be used for actions designed to reduce cross subsidies. The use of the GCRA will also cushion the effect on AGL of the change in contract market revenues resulting from the price path proposed in AGL's proposed Undertaking.

The proposed price path results in a significant drop in AGL revenues. Assuming only forecast increases in utilisation and no further reductions in costs, the total gas pipeline revenue is lower at the end of the first review period than at the beginning. As AGL is one of the parties to the "reasonable balance of interests", the Tribunal considered it reasonable that a mechanism be adopted to smooth the transition to the level of contract market revenues resulting from the proposed price path.

Section 12(2) of the *Gas Supply Act* allows the Tribunal to approve the application of GCRA funds only in a manner that will benefit tariff customers. In rebalancing the proportions of revenue to be derived from the contract and tariff markets, a decrease in the contract market revenues would have to be offset by an increase in the tariff market revenues. As the decrease in contract market revenues under the price path is greater than could be made up by the tariff market through increases in volume at the current tariffs, a price increase to the tariff market would be required if AGL is to maintain its earnings. Further, as the proportion of total transportation revenue from the contract market is considerably greater than from the tariff market, the offsetting price increase to the tariff market would have had to be proportionately greater. The use of the GCRA to smooth the transition to the revenue requirement derived at the sustainable revenue stream will removed much of the need for a price increase to tariff market customers.

Gas usage by the tariff market is considered to be very elastic[3], so that a small increase in the delivered price of gas could have a significant detrimental effect on the ability of AGL to grow the tariff market. Since growth in the tariff market is essential to unwinding the cross subsidy, the use of the GCRA to avoid increases to the tariff market would benefit the tariff market.

The Tribunal has agreed to allow AGL to use approximately $75 million of the GCRA over a period up to eight years to "cushion" the decline in contract market revenues. This will allow the equities market to adjust to the sustainable revenue stream, and allow the rebalancing of tariffs to be achieved without any real increase in prices to the tariff market.

The Tribunal has agreed to allow AGL to use approximately $9.5 million of the GCRA to embark on activities to increase the load of existing low use tariff market customers. This increased tariff market load will help offset cross subsidies and also help address any potential future problem associated with take-or-pay contracts.

To the extent that there are identifiable future expenditures directly related to the tariff market, use of the GCRA to offset these expenditures will reduce the need for a price

[3] Australian Bureau of Agricultural and Resource Economics, "Price Elasticities of Australian Energy Demand" ABARE report prepared for the Australian Gas Association, Canberra, June 1996

increase to the tariff market. Such is the case with the planned reclamation of the former gas works site at Breakfast Point. Reclamation costs in the order of $60 million have been forecast for this site. Uncertainty in the environmental reclamation arena indicates that the actual cost could be significantly greater than this estimate. Since this site was used in the manufacture of gas, strictly serving the tariff market, none of the site reclamation costs should be borne by the contract market. These costs would reasonably be recovered as part of the cost of utility supply to the tariff market, and a price increase to the tariff market would be required to recover these costs. To the extent that GCRA can be used to offset these costs, this increase to the tariff market can be avoided. The Tribunal has agreed to allow AGL to apply $50 million of the GCRA to the reclamation of the Breakfast Point site, with the understanding that, should the actual reclamation costs be greater than $50 million, any additional amount will be borne solely by AGL.

4.2.5 Cross subsidies

In its January 1996 report, the Gas Council discussed the magnitude and measurement of cross subsidies. The Gas Council concluded that cross subsidies should not delay the implementation of an access regime in NSW, but should be embedded in the transport tariffs and unwound over a short period of time. AGL's proposed Undertaking demonstrates that measures have been taken to reduce the level of cross subsidy.

The cross subsidy should be measured as the under recovery of avoidable costs. In the case of AGL's gas distribution system, the tariff market is being cross subsidised because it is not covering its avoidable costs of service. Avoidable costs in the tariff market include the operating, maintenance and connection costs of supplying the tariff market and the opportunity cost of utilising assets to supply the market where the assets and funds employed in those assets could be used more profitably elsewhere.

The opportunity cost has been recovered from the tariff market in the form of a contribution to AGL’s profit. Under the new regime, where AGL’s revenue requirement has been reduced, the contribution to the revenues required from the tariff market is also reduced. As avoidable costs include some proportion of profit (resulting from opportunity costs), the avoidable costs are reduced and thus the under recovery of avoidable costs - the cross subsidy - is reduced.

In addition to the reduction in cross subsidy resulting from the reduction in revenue earned, AGL has introduced some policies for the connection of new tariff market customers which encourage high use profitable customers to be connected. New users will be asked to pay an up front connection charge, and will then receive free gas for the first year of connection. This means only customers that will cover the costs of connection and the cost of gas supply will seek connection, discontinuing the practice of connecting users that require cross subsidisation. These new customers will make a contribution greater than their avoidable costs, further reducing the cross subsidy.

Status of cross subsidies

Preliminary estimates show that price reductions to the contract market, combined with the growth of tariff market volumes and revenues, will substantially remove the cross subsidy by the end of the three year review period. Although the existing cross subsidy is not expected to be completely eliminated, it should send a clear signal to market participants that the cross subsidy is being unwound in a committed manner.

The Tribunal will review the status of the cross subsidies at the next price review, and at each following price review, to determine any price movements in the contract and tariff markets needed to unwind any remaining cross subsidy.

4.2.6 Incentives

The goal of any incentive mechanism is to provide clear signals to the network operator that acting in its best interests is consistent with the achievement of a particular goal. The incentive to improve efficiency is greater profitability.

The two major goals in this price review are to remove cross subsidies from the pricing structure and to reduce any potential effect of take-or-pay contracts. Both these goals can be addressed through growth in the gas load, particularly in the tariff market. In its January 1996 report, the Gas Council identified the major source of gains to be the utilisation of the network system, rather than reductions to operating costs.

The balance to any incentive mechanism is the degree to which the benefits of achieving a goal are shared with users of the system. Forecasts of load and customer growth will be re-assessed at the next price review. In the meantime there is some scope for sharing that growth. The Regulator must find the balance between the incentive provided to the network owner, and a process for sharing the benefits.

Balancing incentives with benefit sharing, the Tribunal has forecast load and customer growth in the domestic tariff market at 2% for the purpose of this price determination. The Tribunal wishes to encourage AGL to increase the load in the tariff market by more than this amount, and accordingly, proposes allowing AGL to retain any incremental revenues attributable to this increased growth during the initial review period. If AGL fails to meet the 2% customer and load growth target, it will not generate the regulatory revenue requirement.

No load growth has been forecast in the contract market, save for existing signed contracts. As discussed in section 4.2.2, total NSW gas consumption in the revenue requirement determination is consistent with the ABARE forecast of NSW gas demand over the price review period. However, new cogeneration loads may join the system in the near future. The three year price review is intended to be consistent with the planning lead time of any new cogeneration load that may come on stream. At the next review period, the Tribunal will be able to adjust the revenue requirement to reflect any additional load and revenues resulting from new cogeneration projects or other major loads.

4.2.7 Reasonable rate of return

The Tribunal conducted a risk assessment to determine a reasonable rate of return for AGL's gas distribution business commensurate with the risk of the business. This work drew largely on the preliminary assessment made by the Gas Council in its January 1996 report.

The Tribunal also engaged an independent consultant, Pacific Road Securities Pty Limited, to conduct a review and recommend an appropriate range in which a reasonable rate of return for the AGL network business would fall. This information was used to assess the reasonableness of the rate of return used for the present value analysis, which formed the foundation for determining the initial asset base.

After analysis and applying of the Capital Asset Pricing Model, the Pacific Road study reached the following conclusions on the CAPM parameters and the Weighted Average Cost of Capital for AGL's network business:

Cost of Capital Determination: Pacific Road Study (50% Gearing)	High	Medium	Low
Nominal Risk Free Rate (R_f)	9.4%	8.9%	8.4%
Market Risk Premium (R_m - R_f)	7.0%	6.5%	6.0%
Equity Beta (ß)	0.90	0.85	0.75
Nominal Cost of Equity (R_e)	**15.7%**	**14.4%**	**12.9%**
Return on Debt (R_d)	**9.6%**	**9.4%**	**9.2%**
WACC (Post Tax at 36%)	**10.9%**	**10.2%**	**9.4%**

The Tribunal wishes to emphasise that the Rate of Return on the regulatory asset base is only one indicator used to test the reasonableness of the sustainable revenue stream and the resulting prices.

For the purpose of this determination, the Tribunal is of a mind to accept an indicative cost of equity of 13.2% and an indicative cost of debt of 9.0%. Assuming a 50% gearing ratio, these parameters would translate into a nominal post tax WACC of 9.48%.

The 50% gearing ratio assumed by Pacific Road Securities requires adjustment. During the initial review period, AGL's capital structure contains a significant proportion of No Cost Capital, being the Gas Customers Reserve Account (see section 4.2.4). If the assumption of a 50% gearing ratio for the "cost" portions of AGL's capital structure is retained, the following WACC calculation results:

Cost of Capital Determination: IPART (50% Gearing)	Capitalisation ($000)	Capitalisation Ratio	Cost Rate
Debt	$532,751	44.4%	9.0%
Equity	$532,751	44.4%	13.2%
No Cost Capital (GCRA)	$134,498	11.2%	0.0%
WACC (Post Tax at 36%)	**$1,200,000**	**100.0%**	**8.42%**

As noted above, the capital structure in the initial price path determination contains a significant portion of No Cost Capital. In future years, the capital structure will change to reflect the application of the Gas Customers Reserve Account (GCRA), and this will have a corresponding effect on AGL's WACC.

The rate of return used in the present value analysis of the future revenue stream to determine the opening regulatory asset value (see section 4.2.9 below) was 9.5% (nominal post-tax), based on a review of prevailing returns in the marketplace for low risk assets. This Weighted Average Cost of Capital (WACC) is toward the lower end of the range recommended by Pacific Road Securities, as shown above. The Tribunal considers that the rate of return used in the present value analysis to determine the value of the Initial Capital Base should bear some relationship to the WACC used in future price determinations.

4.2.8 Asset valuation

Much debate surrounds the issue of the valuation of infrastructure assets. This debate has focused on revaluing the assets of Government Trading Enterprises, often in an environment of privatisation.

The Tribunal wishes to stress that asset valuation assumes a diminished role in the Tribunal's approach to revenue requirement determination. Due to the use of the "range of indicators" approach, the rate of return on the regulatory asset base is but one of the reference points against which users can conduct reasonableness tests of the price path and revenue requirement. This contrasts sharply with the North American approach, which utilises an apparent strict reliance on the rate base/rate of return model, in which the asset base, in conjunction with the weighted average cost of capital, drives the determination of the revenue requirement. Strict application of this approach would exclude the "reasonableness checks" allowed by reference to a broad set of cash-based financial indicators. In practice, it appears that regulators in North America commonly cross-check outcomes and adjust parameters in the rate of return model accordingly. However, this is not an explicit part of the regulatory process. The Tribunal's approach to price determination places considerably less importance on the value of the regulatory asset base.

Perhaps the most compelling finding directing the Tribunal to revalue AGL's asset base for regulatory purposes is that the sustainable revenue stream determined with reference to the broad range of indicators supports a higher asset value than the depreciated historical cost. This type of present value analysis is in common use in the financial community, and has been applied to other entities under the Tribunal's regulation.

4.2.9 Initial Capital Base

To determine the value to be placed on the Initial Capital Base, IPART conducted a present value analysis. The forecast sustainable revenue stream for the gas distribution business was discounted to the present, using a rate of return of 9.5% as discussed in section 4.2.7. The present value of this revenue stream was considered to support the value of AGL’s investment in the gas distribution business.

Note that the sustainable revenue stream has been used to determine the asset value, not that the asset valuation has been used to determine the revenue stream.

The Tribunal then performed a reasonableness test to determine if the resultant value fell within the range allowed by the Access Code. The NSW Gas Distribution Access Code allows the Regulator to determine a value for the Initial Capital Base that falls above the depreciated historical cost, and below the Depreciated Optimised Replacement Cost (DORC). The DORC was determined by AGL in reference to its financial and engineering records. The Tribunal then engaged JP Kenny Pty Limited, an independent engineering consultant, to review the optimised replacement cost analysis.

The Tribunal determined that the Initial Capital Base was the investment in the business that would be supported by the sustainable revenue stream generated by tariffs consistent with the price path. That is, the present value of the total net revenues was discounted to an appropriate cost of capital.

The asset base determined after consideration of the accepted price path and the financial indicators arising from that price path and discounted at a rate of return of 9.5% was $1,200 million. This value fell within the range of the depreciated historical cost ($870 million) and the Depreciated Optimised Replacement Cost ($1,450 million).

The result of the present value approach is that the asset valuation represents the investment in the business, not the sum of values assigned to any particular assets. As such, this Initial Capital Base encompasses not only the physical assets, but also the necessary working capital and other incidental investment in the business.

4.2.10 Past user contributions

In the past, several gas customers contributed toward the cost of having natural gas service made available to them. The contributions took a variety of forms, primarily minimum bill arrangements and standing charges. Regardless of the form, the aim of these user contributions was to increase cash flows to the network operator in the early years of a pipeline project, thus enabling the network operator to construct pipeline assets to serve the customer. One such contribution was made in order to share the effect of significant pipeline cost overruns between AGL and a major customer[4].

Customers who have made contributions to the network operator have argued that the price for providing service to them should be reduced by the effect of the contribution. That is, the contributing customer’s tariff should be reduced by an amount representing the amortisation of the contribution, and by an amount representing a return on the remaining portion of the contribution. The customer making the contribution, it is argued, should be compensated for investing the capital itself, rather than the pipeline owner investing the capital on the customer's behalf.

In the future, the tariff treatment of any capital contributions will have to be specified in the contract for service agreed by the user and the service provider. While the Tribunal believes this is a reasonable solution to implement for the future, it is difficult to apply in retrospect.

In the tariff setting regime in which these customer contributions were made, prices were negotiated directly by AGL and each customer. It is not clear whether or how these contributions were reflected in the price charged by the network operator for service. Since tariffs were previously set in an environment of negotiation, any reflection of these contributions in tariffs cannot be identified.

The Tribunal has been able to determine the prior regulatory treatment of these contributions. A previous Government Board of Inquiry set prices for tariff customers by deducting customer contributions made through standing charges and minimum bill

4 It should be noted that the application of an Optimised Replacement Cost procedure would apply the construction techniques in use in today's environment. Such a procedure would also reflect the labour environment of today, rather than when the pipeline was constructed. The underlying reason for a "cost overrun contribution" would thus be removed from the asset valuation. It would be inappropriate to remove the cost overrun from the asset valuation, but continue to reflect the related contribution.

arrangements from AGL's regulated total revenue. The standing charge was thus translated into lower prices for tariff customers, rather than being retained by the network operator to offset its capital investment in the network assets. The Department of Energy of the day also required AGL to include these standing charges and minimum bill arrangements in its revenue when calculating its levy to the Government under its gas distributor authorisation.

The result of these two governmental decisions was that tariff gas users were subsidised through the contributions of contract gas customers. The Tribunal believes that AGL was not able to retain the benefit of customer contributions in order to offset its investment in pipeline assets.

Accordingly, the Tribunal believes that it would not be appropriate to reflect past customer contributions by reducing AGL's capital base, or by adjusting the Reference Tariff. The Tribunal notes that customers that have made contributions may still negotiate prices. It may be possible to have some benefit from customer contributions reflected in a negotiated price arrangement. This is a matter to be negotiated by the customer and the service provider.

4.3 Reference Tariffs

The determination of cost reflective prices must be approached at two levels:

(1) At the macro level, the focus is on the cost to the network operator of providing service to its customers as a whole. The result of this focus is the determination of the overall revenue requirement.

(2) At the micro level, the focus is on providing cost reflective prices to specific types or groups of customers. This focus results in the revenue requirement being translated into Reference Tariffs.

The Gas Council's January 1996 report identified many of the factors that must be considered in determining Reference Tariffs. These are discussed below.

4.3.1 Cost drivers

As noted in the Gas Council's January 1996 report, there is currently no compression on the AGL system. Accordingly, there are virtually no costs that vary with a customer's gas throughput. Rather, the major cost drivers are the capital investment in the system to provide capacity, and the operating and maintenance costs to maintain and administer the provision of that service.

In the Gas Council report costs are divided between two general categories: customer driven and capacity driven. Customer costs relate to drivers such as billing, location, size, and site. Capacity costs are primarily driven by investment in infrastructure assets. The first step in designing the Reference Tariffs was to analyse the components of the revenue requirement, and to allocate costs between those driven by customers and those driven by capacity requirements. The Tribunal recognises that this division of costs is not an exact science. However, it is useful because it indicates the proportion of revenue to be derived from customer charges and capacity charges.

4.3.2 Bypass

The Gas Council's January 1996 report recommended that bypass be allowed from any point on the distribution system to any other point on the system. It states that viable bypass opportunities will provide reasonable grounds for customers to negotiate a reduction in service price from the Reference Tariff. The structure of the Reference Tariff has to be sufficiently cost reflective to reduce the incentive of any customer to bypass. The Tribunal considers that a disincentive to bypass is an indication of the cost reflectivity of the Reference Tariffs.

It should be noted that, even after structuring the Reference Tariffs to limit the bypass risk, AGL is still exposed to potential bypass opportunities. This is due to the inevitable averaging inherent in constructing a manageable set of Reference Tariffs.

4.3.3 Pricing structure

The pricing structure discussed in this section was determined through extensive modelling by AGL in conjunction with the Tribunal. A considerable number of approaches were tested against the criteria of cost reflectivity, fairness and simplicity. While the Tribunal is inclined to accept the pricing structure outlined below, comments are welcome on alternative price structures that will meet the requirements of all users on the system.

The Gas Council report recommends a two part tariff, including a fixed demand or capacity charge, and a per customer transaction charge. Since there are virtually no costs that vary according to gas throughput, this pricing structure will translate to a fixed charge per unit of capacity reserved, plus a fixed charge per customer or connection point, which may vary by customer.

Nevertheless, the pricing structure chosen must reflect the extent to which customers use the distribution network. Generally speaking, customers should:

- pay for assets used to provide service to them
- not pay for assets not used to provide service to them
- make a fair contribution to the joint and common costs of the system.

One demonstration of this principle is that the Reference Tariffs proposed for this review period are not designed to recover any portion of costs associated with services provided by the medium and low pressure systems. This is because medium and low pressure systems primarily serve customers consuming less than 10 TJ of gas per year. As third party access will not extend to customers consuming below 10 TJ of gas per year in this review period, the current Reference Tariffs should not recover any of the costs associated with providing service to customers consuming under 10 TJ of gas per year. The exception will be the transportation tariff to eligible tariff market customers.

Similarly, customers should not generally pay for assets downstream of their service point. This is a concept of some debate, as the link between assets and service is blurred by the averaging inherent in constructing a manageable Reference Tariff. Further, it is validly argued that, were it not for downstream load, the assets serving a customer would not be able to benefit from the economies of scale associated with constructing larger pipelines.

These principles mark a significant change from the pricing structures in place prior to open access. The previous pricing structure was very inefficient as the emphasis was on "equity" rather than efficiency. For example, customers in the same industry were sometimes charged the same delivered gas price, regardless of the network assets and other costs associated with serving them at their differing locations. Thus, the customers did not contribute to the fixed costs of the network in proportion to their use of the network. In the case of system expansions this may result in cross subsidies.[5]

Incorporation of a distance based element aligns the pricing system more closely to common notions of "users pays" charging. As such, it may be viewed as a fairer means of recovering the cost of existing assets. It reduces the likelihood of customers cross-subsidising system expansion, and also reduces the risk of bypass.

Departing from a uniform pricing structure could result in wide movements in prices. The combination of the proposed price path and the change in pricing structure will not result in transport price decreases for all customers. However, those few customers that face a price increase will have benefited from their higher contribution to costs of other users under the previous price structure.

The modelling undertaken by AGL and the Tribunal indicates that transportation of gas along the largest diameter, highest pressure pipelines in the system was clearly the most cost effective. The cost of reserving a unit of capacity for a given distance along these trunk mains was very small, relative to the cost of capacity on the smaller secondary mains pipelines. Accordingly, the costs associated with trunk transportation have been divided into four "zones", each of which feeds a distinct portion of the secondary mains system. By way of analogy, transportation from Wilton, where AGL's distribution network begins, to the customer's service zone could be compared to a "flagfall" type of charge. The trunk transport price includes transport along the secondary system to a limit of three kilometres.

From the trunk mains, Reference Tariffs are structured as a distance based capacity charge. In the Reference Tariffs included in AGL's proposed Undertaking, "distance" is defined as the direct "as the crow flies" distance from the nearest trunk pipeline. This "distance" concept is meant to meet two objectives. First, to not penalise a customer if the pipeline which serves it follows a circuitous route to the service point, and second, to recognise that any bypass pipeline will be built using the most direct route to the nearest trunk main.

Distance-based pricing marks a significant change from the previous structure. Because AGL’s distribution network begins at Wilton, a considerable distance from Sydney, the strict application of distance based prices may result in considerable price increases for those customers located on the coast, remote from the city gate at Wilton. Under previous pricing structures, customers that utilised fewer assets, because they are located closer to Wilton, paid more than their share of the assets, enabling customers that used more assets to pay a lower price for their share of assets.

To dilute the potential increases in charges to those further away from Wilton, the proposed pricing structure includes a postalised zone price for transport on the secondary system for those customers more than 23 km away from the trunk. The Tribunal recognises that customers in the coastal postalised zone will make varying contributions relative to the cost

[5] Technically, a cross-subsidy occurs if prices are below the avoidable cost of supplying a service. Strictly speaking, sunk or existing assets are not included in the calculation. Where a system is capacity constrained, future augmentation which could be deferred or avoided would be included in the avoidable cost.

of existing assets which could be allocated to them. The Tribunal is of a mind to accept that the use of a zone at the far reaches of the distribution system strikes a balance between the interests of all customers on the system. It should be noted that the current extent of the system is such that a postalised zone beyond 23 km applies only in the Sydney area.

In reviewing AGL's proposed tariffs, the Tribunal noted that the specific tariffs do not reflect the CPI-13, 10, 7 price path applicable to aggregate contract market revenue. For example, tariffs to some customers in the "coastal postal" zone will experience an increase, followed by two years of stability. This structure was implemented to avoid the erratic pattern of a large increase in the first year followed by decreases in the next two years.

The Tribunal welcomes comments on alternative pricing structures that balance the interests of all system users. The Tribunal also welcomes comments on the methodology to translate the aggregate price path into specific price paths for the tariff zones.

4.3.4 Choice of boundaries

At first glance, the choice of pricing boundaries ("3k free", distance pricing to 23 km, and a "coastal postal" zone) may appear to be somewhat arbitrary. The choice of boundaries has been the subject of considerable analysis. This section outlines the reasons for the pricing boundaries.

The Tribunal has identified that the risk of bypass is a major consideration to the network operator, and to those customers for whom bypass is not a viable option. The "3k free" zone was designed to greatly reduce this bypass risk. The Tribunal considers that bypass risk is greatest for those customers located close to the trunk mains. Thus, customers within the "3k free" zone are able to bypass to the trunk system, but will receive no resultant decrease in the reference price. The Tribunal's analysis indicates that the use of this zone has led to a marginal increase in average reference prices, but resulted in a dramatic decrease to the number of viable bypass opportunities. The Tribunal considers that this reduced risk of bypass addresses AGL's reasonable interests.

Beyond the "3k free" zone, distance based pricing for the next 20 km covers most customers large enough to consider a bypass price. The 23 km line was chosen as there is an observable reduction in customer density at this point due to the geography of the Sydney area. This is a natural barrier for a zonal system to begin, as there is generally the greatest incentive to bypass at the "front end" of a zone, and the benefits of the zonal approach are greatest at the "back end" of the zone.

A strictly distance based tariff would lead to unacceptably high tariffs on those customers on the coast; this is largely an equity issue. Hence a single "coastal postal" zone applies from the 23 km mark outwards.

The Tribunal notes that the use of such natural boundaries will be unique to each distribution system.

The Tribunal welcomes comments on alternative pricing structures that balance the interests of all system users.

4.3.5 System definition for pricing purposes

The Gas Council report describes AGL's distribution network in terms of four major pipeline categories:

1 trunk mains (operating to a pressure of 7 Mpa)

2 primary mains (to 3.5 Mpa)

3 secondary mains (to 1 Mpa)

4 the medium to low pressure system.

For pricing purposes, the Tribunal has modified the delineation between these systems, greatly simplifying the pricing on the network.

In the Sydney area, the primary system clearly operates as the "backbone" of the secondary pressure system, rather than as a separate system. Therefore, for pricing purposes primary pipelines in the Sydney area have been included in the secondary system.

In Wollongong, the primary pipeline is clearly an extension of the trunk main system. The section of pipeline from Mount Keira to Wollongong was constructed to the same standard as the rest of the trunk system. This pipeline operates at a lower pressure than the remainder of the trunk system due to its location in a built-up area. Accordingly the primary system in the Wollongong area has been treated as trunk pipeline for the purposes of determining transport pricing.

In Newcastle, the secondary system is supplied directly from the trunk system. The Tribunal has not modified the definition of the pipelines serving the Newcastle area.

These system definition modifications will affect the pricing boundaries discussed above.

4.3.6 Existing negotiated decrement customers

The Tribunal recognises that the introduction of cost based tariffs marks a departure from the tariff setting methods used in the past. The Tribunal is aware that investment decisions have been made on the basis of the prior tariff setting methodology. Consideration must be given to those customers who will be negatively affected by a change from their current prices to the reference price for the service received.

In its January 1996 report, the Gas Council discusses the concept of "prudent discounts". The service provider may be permitted to "roll in" approved prudent discounts to the next price determination. The objective of the "prudent discount" concept is to signal to service providers that other customers will not necessarily be subject to a price increase to compensate for any shortfall of revenues resulting from discounts granted. Indeed, the Gas Council proposes that any revenue shortfall resulting from discounts may be shared between the service provider and its customers.

This discussion was in the context of the service provider negotiating discounts from the Reference Tariffs between price reviews - it did not address the question of any "discounts" existing at the time of the first price determination.

During the analysis to determine the Reference Tariffs, the Tribunal found that there were several customers whose existing negotiated price was below the applicable Reference Tariff which resulted from the price determination exercise. This caused the Tribunal to advance the "prudent discount" concept to the first price determination.

The first question which arises is "what constitutes a prudent discount?". In a commercial sense, a discount is "prudent" as long as the resulting price covers all marginal costs and contributes to the fixed costs of the system. This commercial definition is most applicable in a competitive environment, where customers not receiving a "prudent discount" are protected by the competitive nature of the marketplace from suffering a compensating price increase. In a regulated environment, the Regulator must grant the service provider a reasonable possibility of earning its approved revenue requirement. In this situation, a discount provided to some customers must, almost invariably, be accompanied by a price increase to other customers. The definition of "prudent" must therefore be tempered by consideration of the "reasonable balance of interests".

Section 8.29 of the Third Party Access Code for Natural Gas Distribution Networks in NSW provides guidance on criteria that may be applied in determining the "prudence" of a discount:

> "Where agreed by the Regulator, the [sustainable revenue stream] may be calculated by deducting the forecast revenues from services sold at a price other than the Reference Tariff, where:
>
> (i) the nature of the market in which a User or Prospective User operates, or the price of alternative fuels available to the User or Prospective User, is such that a Service, if priced at the nearest Reference Tariff, would not be used by that User or Prospective User, and
>
> (ii) Reference Tariffs calculated without regard to the revenues of that User or Prospective User would be greater than if the Reference Tariff were calculated having regard to the revenues of that User or Prospective user served at a price other than the Reference Tariff;"

In the past, the regulatory environment for the contract market was such that AGL and its customers could negotiate the price for service. Acting in its own interest, each party negotiated the best deal it could. AGL's pricing policies in the past have been responsive to the regulatory environment - natural gas service was not priced relative to the cost of supplying it, but relative to the alternatives available to the customer. Accordingly, major customers with a viable alternative fuel option were provided service at a cost just below the cost of using the alternative fuel. Similarly, those customers that would stop receiving natural gas service at a given price were provided with service at a price just below their abandonment threshold. Those customers that did not have viable alternatives became price takers.

This behaviour is consistent with the expected behaviour of a monopoly service provider in the absence of price regulation. The Tribunal is confident that AGL has effectively Ramsay priced service to each of its contract market customers - that is, with clear regard to the cost of the customer's nearest alternative. From an examination of the cases in point, the Tribunal concluded that an attempt to price those customers at reference prices would reduce system throughput considerably, to the detriment of other customers.

In determining Reference Tariffs, the Tribunal reduced the amount of the revenue requirement to be recovered by the amount of revenue generated from the existing "negotiated decrement" customers. The Tribunal also reduced the demand-distance cost drivers of the system by those relating to these customers. The resulting figure was the amount of the revenue requirement to be derived from the remainder of the customers.

It should be noted that, as discussed in section 4.2.3, the reference prices were determined through a price path applied to the contract market revenue requirement as a whole. Since "negotiated decrement" customers will not benefit from a price reduction, the reduction in transport costs to the majority of the contract market customers will be greater than that specified in the price path.

In allowing these opening "negotiated decrements" to be reflected in the initial Reference Tariff determination, the Tribunal wishes to stress the willingness of customers to leave the system if the only tariff available is the Reference Tariff. As outlined in the Access Code criteria above, the result of allowing these "opening discounts" to be reflected in the first Reference Tariff determination is to lower costs to all system users with the "negotiated decrement" customer served at the negotiated price rather than dropped off the system.

4.3.7 Differential pricing

Differential pricing between similar customers is the inevitable result of any regime in which negotiation is an important element. While the Reference Tariffs will be the same for similar customers, it is possible that the actual price for service could differ, depending on a customer's ability to negotiate, bypass or use alternative energy sources.

Some customers may express concern that other users in the same industry (for example, two brick works) will face different Reference Tariffs. While this may be the case, due to different plant locations, it should be noted that this is not discriminatory pricing from the standpoint of the distribution network.

One important aspect of the new access regime is that customers now have access to arbitration to assist in settling pricing disputes. This is a key feature of this regime.

4.4 Implications for customers

Prior to the Tribunal's final determination on this matter, it is possible for all gas users to negotiate transport agreements with AGL's network operator. However, AGL is under no obligation to offer services priced in accordance with the Reference Tariffs until its Undertaking is authorised.

From the date that the AGL Undertaking is authorised, the AGL network will charge all customers for transport services at the reference price, unless an existing contract or a negotiated decrement price is in place. This will apply where the customers are users of transport services (not necessarily the end user of the gas), and satisfy the requirements of the transitional timetable. Any customer wishing to enter into a service agreement will be covered by the arbitration model encompassed in the code and will have available reference prices that will either be acceptable to the user, or will form the basis of negotiation.

End users will be allowed to enter into their own transport arrangements with the network operator subject to the transitional timetable set down in the regulations of the NSW Access Code. Customers that use more than 500 TJ at a single site will be able to put in place transport arrangements with the network operator from the date of approval of the access Undertaking. The rest of the market will continue to be served by AGL's merchant arm until the access timetable permits otherwise.

4.4.1 Tariff market

Tariff market customers will generally not be eligible for access to the distribution systems of NSW during this review period. Until such time as this market becomes contestable, it will continue to be regulated by the existing Price Control Formula (PCF) regime. Under the current PCF, AGL is authorised to increase prices to the tariff market subject to a limit of CPI - 1.5.

Most tariff customers' gas supply requirements are too small to be targeted individually by gas suppliers using access through distribution networks. Even though these customers may become contestable, their loads may not be contested. Brokers and aggregators may move into the market eventually and provide these customers with reasonable supply options. Until that time, however, the access regime must be consistent with price oversight of this sector of the market.

Tariff market customers are likely to benefit from competition between "energy services companies", which would compete to supply energy services to an aggregation of tariff market customers. In this case, tariff customers will be able to choose their supplier on the basis of delivered price. Suppliers will compete on the basis of their ability to take advantage of load profiles, or on their ability to negotiate more favourable supply and transportation agreements.

4.4.2 Contract market

Eligible contract market users will be able to enter into service agreements directly with the network operator as soon as the Access Undertaking is approved. These customers will be able to reap the benefits of open access by negotiating supply and transport directly with the providers of those services.

However, the Tribunal also expects benefits to flow to customers that are not eligible under the transitional timetable. As discussed above, AGL Network Operator will charge the reference price to its merchant arm, commencing with the approval of the Access Undertaking and approval of its related party contract with AGL Merchant. It is the merchant arm that will provide the bundled service to uncontestable customers. To the extent that the merchant arm receives a reduction in the cost of the transportation component of the bundled gas service, users may be in a position to negotiate a reduction in the bundled price with the merchant arm.

Until customers are eligible to negotiate directly with the network operator or other suppliers according to the transitional timetable, the existing regulatory regime will continue to apply. This means that the merchant arm's provision of service to these customers will not be subject to regulatory oversight.

5 AGL'S DRAFT UNDERTAKING - NON-PRICE ASPECTS

5.1 Introduction

This section responds to the non-price aspects of AGL's proposed Undertaking. A number of these matters are highly technical in nature and are outside the direct expertise of the Tribunal. Detailed operational procedures have been the subject of ongoing development and the Tribunal encourages comments from industry with expertise in this area.

Notwithstanding the above, AGL's proposed Undertaking is generally consistent with the requirements of the NSW Access Code and the *Gas Supply Act 1996*. As a consequence there are areas of AGL's Undertaking that appear acceptable and the Tribunal is inclined to support, subject to consideration of matters raised in the public consultation period.

5.2 Undertaking

AGL undertakes to develop Reference Prices, including price paths, for the term of this Undertaking. These Reference Prices are proposed to recover efficient operating costs, and to provide the opportunity to realise returns equal to the Company's Weighted Average Cost of Capital (WACC) on Funds Employed. Although this is correct, the Tribunal will also consider other financial indicators to determine the revenues to be earned by AGL. This is discussed more thoroughly in Section 3.2.4.

Reference Prices will be developed and established for each subsequent Undertaking. The Tribunal supports that Reference Prices should be in place for a period of no longer than five years in accordance with the NSW Access Code. The Tribunal does not support a limitation of between four to five years as suggested in AGL's Undertaking.

5.3 Access principles

5.3.1 Information disclosure

Information to the market

Under the NSW Code, the Regulator may require AGL to include in its Undertaking any information which the Regulator considers may assist users or prospective users. This information can be found throughout the proposed Undertaking and the Access Undertaking Information document. In its Undertaking, AGL has published details of:

- Initial Capital Base
- depreciation rates
- estimates of the Weighted Average Cost of Capital (WACC)
- growth targets
- operating costs per customer
- various proposed charges.

AGL has argued that it would be inappropriate for the company to issue detailed growth and revenue forecasts as any information it releases must be made available to the

Australian Stock Exchange. This information could be interpreted as implying a view of future performance. AGL could be held to have misled the market if actual performance differs from the forecast performance. To overcome this problem, the Tribunal has decided to publish its forecasts on which AGL's revenue requirement and price path have been set. This information is outlined in section 4.2.2 of this draft Determination.

5.3.2 Request for Service

Where a prospective user seeks access to the Network, it shall first lodge a completed Request for Service. AGL's Undertaking outlines the requirements of the Request for Service, including the time allowed to respond to the Request for Service. The Undertaking states that within 30 days the prospective user will be advised accordingly. Section 5.2 of the NSW Code outlines what a response to a Request for Service should include.

The Tribunal will require that the Undertaking comply with the NSW Code.

5.3.3 Processing of requests for service where capacity is inadequate (queuing policy)

If a potential user wishes to reserve capacity and there is no capacity available the user will have to join a queue. An existing user has no additional rights when its contract expires, and must also join a queue in these circumstances. The only exception is where an existing user has an option to extend the contract and exercises this right forty days prior to the expiration of the contract. In this situation only the existing level of capacity can be reserved. Any requests for additional capacity must be considered as a separate Request for Service and the user will have to join the queue to obtain the additional capacity.

If a potential user in a queue wishes to reserve capacity, but is unwilling to accept the Reference Tariff within a period of forty days, other potential users that will accept capacity at the reference price will have priority in the queue.

This policy is in accordance with the NSW Access Code and the Tribunal is inclined to accept this approach.

5.4 Reference price services

5.4.1 Overruns

Overruns occur when a user exceeds the agreed Maximum Daily Quantity (MDQ). In the absence of charges for overruns, customers could have an incentive to understate capacity requirements. This would adversely effect the efficient operation of the network. AGL has adopted a policy that includes charges for overruns to encourage users to reserve capacity sufficient for their needs. These charges become more severe as the number of overruns increase.

The Tribunal is inclined to support the proposed provisions in principle, but seeks further comment on the determination and magnitude of the overrun charges.

5.4.2 Gas balancing

As a network operator, AGL will be conducting a balancing service. To deal with day to day imbalances and to deter continuing and excessive imbalances, AGL has adopted a policy designed to manage balancing.

Each user will be expected to act in good faith and be in balance each day. However, a user is only in balance if on any day the quantity of gas delivered into the network at the receipt point by, or on behalf of, the user over the day equals the quantity of gas withdrawn at the delivery point on that day, plus any increase or minus any reduction in the user’s allocated share of network inventory over the day.

The Tribunal seeks comments on AGL’s proposed network inventory provisions.

To reconcile any imbalances, AGL proposes to act as a broker. That is, if a user receives more gas than it puts into the system, AGL will sell the user the extra gas. Similarly, if the user receives less than it puts in, AGL will purchase the excess gas. For imbalances up to six percent over or under, gas will be bought and sold at a price posted by the network operator every month[6]. AGL plans to record imbalances daily and to bill monthly.

If imbalances are greater than six percent of withdrawals, the user will have to purchase gas from AGL at a price greater than the posted price, or sell gas to AGL at a price less than the posted price. The severity of the premium or discount at which gas is bought or sold to correct for imbalances increases as the imbalance increases as a percentage of the user's withdrawals.

AGL proposes that the price at which gas is bought or sold for balancing should be a published independent indicative price. This is referred to as the Imbalance Settlement Price. AGL proposes to determine this price as no published independent price exists. One solution may be to ask players in the industry to participate voluntarily in a scheme to arrive at an independent weighted average price of gas. If there were enough willing participants, it may be possible for users, suppliers and producers to reveal the price at which they buy and sell gas to an independent body on a confidential basis. These prices could then be weighted and averaged. The published price would be indicative only. Any individual price could not be traced to a user, supplier, producer or source.

The Tribunal seeks comments on a method for successful balancing of the network and a solution to determining an independent Imbalance Settlement Price.

5.4.3 Tradeable capacity

AGL proposes that if a user wishes to trade capacity, it must purchase tradeable capacity as a different service. AGL wishes to offer tradeable and non-tradeable capacity separately because some of the diversity of the system is lost when users participate in capacity trading as the reserved tradeable capacity must be considered as unavailable to the network operator. Where no trading takes place, AGL can use the diversity of loads to manage the system more efficiently, enabling more load to pass through a given level of capacity. This reduces the charges per unit of capacity.

---

6 Consideration is taken of the percentage imbalance as well as the minimum allocation. The minimum allocation will be set to reduce the potential for an imbalance which may be large in percentage terms but small in magnitude, and allocated to high marginal cost tranches.

To reflect the loss of diversity and the resulting higher unit charge for capacity, AGL proposes to charge a price for tradeable capacity that is 1.7 times that for non-tradeable capacity. It is possible for a user to purchase a mix of capacity, some of which may be tradeable and some untradeable, or to purchase all of one type. This principle is consistent with the NSW Access Code.

AGL has outlined in its Undertaking the responsibility of the trader and the purchaser of capacity in relation to balancing and overruns and liability for any charges incurred.

The Tribunal seeks comments on:

- ***tradeable capacity as a separate service***
- ***the reasonableness of the proposed premiums in view of the loss of diversity***
- ***whether the premiums should differ by region***
- ***liability for charges incurred***
- ***the extent that tradeable capacity will be utilised to assist the Tribunal to forecast the use of this service when determining AGL's revenue requirement over the next three years.***

5.4.4 Tariff transportation service

AGL has included in its Undertaking a method for charging the tariff market for transportation. AGL has included this as a separate service because of the difficulties surrounding the reservation of capacity for the tariff market and because the Tribunal must approve any related party contracts.

There are difficulties associated with reserving capacity on the medium to low pressure system that serves the tariff market. Reserving capacity on the trunk system is simpler. The Tribunal supports a zone price for transportation to the tariff market based on the reservation of capacity on the trunk system, and an average charge for the use of the further assets (including the medium and low pressure systems). The zonal charge would differ for Sydney, Newcastle and Wollongong. To date there has been limited analysis of the precise structure of these charges as the tariff market will not be contestable in the period of this review.

In the meantime, the Tribunal will have to approve the related party contract. AGL proposes that the tariff transport price will consist of two components. There will be a fixed service charge per billing period, designed to cover part of the fixed costs of the network, and a throughput charge. The throughput charge will be equal to the delivered price of gas minus the city gate price of gas (which includes the commodity price plus the haulage price) per gigajoule transported. That is,

$$TTP = DP - CGP$$

Where,

TTP is the price per gigajoule for transportation to the tariff market (Tariff Transportation Price)

DP is the Delivered Price per gigajoule of gas to the tariff market at 1 July 1996, and

CGP is the City Gate Price per gigajoule, which includes the cost of gas and the cost of haulage on the Moomba to Sydney pipeline, at 1 July 1996.

The result would be a fixed dollar per gigajoule charge for the different regions and type of load within the tariff market. This fixed charge may change over the review period in line with the Price Control Formula (PCF) which limits any increases in the total average price to tariff customers to CPI-1.5 per year.

The Tribunal supports this approach for the period of this review. As the tariff market becomes contestable and other tariff suppliers enter the market a more transparent price structure should be introduced based on capacity reservation and the cost of utilising the medium and low pressure system.

However, the Tribunal has concerns that the tariff transportation price for the period of this review would also apply to tariff suppliers of greenfield sites, and may provide AGL with an advantage in competing to supply greenfield sites.

The Tribunal seeks comments on the proposed treatment of transportation charges to the tariff market during the review period, and particularly the effect on competitive supply to greenfield sites. Comment is also sought on tariff transportation prices that may apply once the tariff market is contestable.

For the purpose of gas balancing, AGL proposes that the quantity of gas received at the Receipt Point on a day will be deemed to be 91 percent of the quantity advised by the user, or its agent, as the quantity delivered into the network on the day. The difference (9 percent) is the allowance for unaccounted for gas (UAG).

The Tribunal seeks comment on the size of this allowance.

5.4.5 Firm service backhaul

At this stage, AGL has not included a tariff for backhaul service in its Undertaking. However, it plans to determine such a tariff ahead of any demand for backhauling. The Tribunal’s preliminary view is that backhaul service should be priced in the same manner as forward haul service. Consideration should then be given on the resulting total capacity (forward and backhaul) and where backhaul increases the capacity of the assets, the price per unit of capacity should be reduced.

The Tribunal seeks comments on:

- ***the likelihood that backhaul service will be required and when***
- ***methods used for determining the tariff for backhaul service.***

5.5 Interruptible service

AGL currently does not have a tariff for interruptible service. This service is not available because in most areas there is ample capacity for service to be offered on a firm basis. The

Tribunal recognises the need for AGL to offer discounts to customers who may be interrupted due to capacity constraints, but the decision to offer these discounts is locationally dependent and in the interests of maintaining the integrity of the system.

The Tribunal is inclined to accept this policy.

5.6 Key terms and conditions of supply of reference price services

5.6.1 Contract expiry

AGL proposes that the Reference Tariffs should apply to "standard" contracts which apply for a two year period. In a changing environment, the Tribunal considers a more reasonable period for a standard contract may be one year.

The Tribunal invites comments on an appropriate standard contract length.

5.6.2 Nominations

AGL's Undertaking requires gas users to nominate withdrawals from the network (assumed to be matched by deliveries into the network) on a daily basis, providing forecasts for each of the following seven days.

AGL also requires users to direct their transmission pipeline operator to notify AGL, no later than three days after the end of each month, of the quantity of gas delivered into the network for each user at the receipt station on each day of that month.

The Tribunal is inclined to accept this approach but seeks comments on:

- ***the requirements for nominations***
- ***responsibility for these requirements***
- ***the ability of gas users to comply with these requirements***
- ***any potential barriers these requirements may create.***

5.6.3 Metering Facilities

AGL's Undertaking permits the service provider to have a separate charge for metering services and requires that meters will be owned by the network operator. Another view is that there may be some merit in a customer's choosing who owns the meter once the customer becomes contestable. The network operator may then sell the meter for market value to the purchaser of the customer's choice. The customer, or the customer's supplier may choose to purchase the meter or provide its own. The network provider may still require a fee for services such as maintenance and the reading of the meter where these are provided by the network company.

The Tribunal invites comments on:

- ***the ownership of the meters***
- ***any potential barriers to competition***
- ***the type and magnitude of metering charges.***

5.6.4 Gas quality

Until such time as a national standard is required, AGL has specified a range for the quality of gas it will accept into the system.

The Tribunal invites comments on the gas quality specification to determine if there are any problems with the specified range.

5.6.5 Change of receipt point or delivery point

AGL has put forward requirements to be met if a user wishes to change its receipt or delivery point.

The Tribunal would like comments on the reasonableness of these requirements.

5.6.6 Other technical issues

The Tribunal recognises that the gas industry has extensive expertise in the technical aspects of natural gas distribution systems and invites comments on any other matters of a technical nature.

5.7 Pricing principles for determination of Reference Prices

This section of AGL’s Undertaking is in accordance with the NSW Access Code and is discussed in more detail in Chapters 3 and 4 of this draft Determination.

5.8 Operational principles

5.8.1 Curtailment of supply

AGL has proposed a curtailment policy for load shedding and reconnection in the event of a natural gas supply failure. The policy involves stopping supply to users in order of their need for security of supply. Gas would then be reconnected in the reverse order.

The Tribunal is inclined to accept the ranking on priority of load as proposed.

5.8.2 Bypass

AGL has proposed to allow bypass from any agreed point on the Network to the point where the gas is to be utilised provided the relevant authorisations are obtained and subject to technical, safety and operational conditions. The user will be required to fully fund connection costs.

The Tribunal is inclined to accept the technical requirements for bypass.

5.8.3 Ring fencing arrangements

The ring fencing proposals included in AGL's Undertaking do not meet the minimum requirements under the NSW Access Code in regards to creating separate legal entities, and ensuring there are no shared marketing staff (Sections 4.1, (i), (ii) and (vii)). AGL proposes to establish protocols in regard to access to information. These protocols will need to be submitted to the Tribunal for approval.

AGL could have its obligations in regards to marketing staff waived under Section 4.7 of the Code and has sought the Tribunal's approval in regards to AGL Merchant utilising the Marketing Manager of the Energy Utilities Division of the AGL Group. The Tribunal is aware that there are concerns about information flows between the marketing of generic gas on behalf of the network operator, and the marketing of AGL gas on behalf of the AGL supplier.

Under the NSW Access Code there is a provision under which the Minister can impose additional Ring Fencing requirement after consideration of advice from the Regulator.

The Tribunal acknowledges that ring fencing has been debated extensively by industry. Before making any determination in this area, the Tribunal seeks comments on AGL's proposed arrangements.

5.9 Design criteria for gas distribution systems - Schedule B

Schedule B of AGL's Undertaking concerns the design criteria for high pressure gas distribution systems. Section 9.2.3 suggests that these guidelines be adopted as the benchmark for surplus capacity.

The Tribunal invites comments on the appropriateness of using these guidelines as a benchmark.

5.10 Charges - Schedule D

5.10.1 Contract administration

A Contract Administration charge is proposed. It is proposed to be levied on users on a monthly basis. The charge would be affected by a customer's annual gas usage. However, this is a fairly arbitrary and possibly inequitable relationship. AGL proposes charging a user $4,183 per year for load up to 100 TJ per year and $8,366 per year if usage is greater than or equal to 100 TJ per year. These charges are intended to approximate the fixed administration costs per customer which may vary with site size, customer size, and the sophistication or complication of contracts.

The Tribunal has reservations about this approach and would like comments on the magnitude and allocation of this charge.

5.10.2 Charges for requests for service

AGL proposes charging for processing each request for service. This charge, excluding any engineering and liaison investigation that may be required, will be $100 per person hour up to a maximum of $3000.

The Tribunal seeks comments on the reasonableness of this charge.

DRAFT DETERMINATION

on the

PROPOSED ACCESS UNDERTAKING

of

AGL GAS COMPANY (NSW) LIMITED

APPENDIX I

NUMERICAL ANALYSIS

INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

Determination of Revenue Requirement

AGL Gas Company (NSW) Limited
(Network Activities)
($000)

	1996/97	1997/98	1998/99
Net Operating Costs	160,558	155,899	155,171
Goldline Rentals	28,893	31,635	34,521
Depreciation & Amortisation	54,207	55,335	57,210
Income Tax Expense	23,194	23,891	21,132
Return	89,292	92,001	97,140
Total Revenue Requirement	356,144	358,761	365,174
Allocated to:			
Contract Market	**139,933**	**130,837**	**127,697**
Tariff & Other	216,211	227,924	237,477
Total Revenue Requirement	356,144	358,761	365,174

Financial Indicators Analysis

AGL Gas Company (NSW) Limited
(Network Activities)

Stakeholder	Indicator	1996/97	1997/98	1998/99
Customers	Contract Market Network Price Path	CPI-13	CPI-10	CPI-7
Lenders	Funds Flow Adequacy	91%	101%	96%
	Funds Flow Interest Coverage	4.11	4.06	3.59
	Funds Flow Net Debt Pay Back	4.59	4.34	4.42
	Internal Financing Ratio	82%	102%	92%
	Pretax Interest Coverage	2.69	2.68	2.32
	Total Debt / Total Capital	40.3%	39.5%	37.3%
	Funds Fom Operations / Total Debt	21.8%	23.0%	22.6%
	Net Cash Flow / Long Term Debt	10.5%	11.3%	10.2%
	Indicative Credit Rating	A	A	A
Regulator	Regulatory Return / Funds Employed	7.8%	8.3%	8.6%
	PBIT / Sales Volume (/ GJ)	1.03	1.02	0.99
	PBIT / Revenue	28.3%	29.0%	27.7%
	PBITD / Sales Volume (/ GJ)	1.56	1.55	1.53
	PBITD / Revenue	43.1%	44.0%	43.0%
	Real Operating Costs per Customer	258.5	261.2	239.2
Investors	Profit Before Interest & Taxes	112,500	115,900	118,300
	Profit After Tax	51,100	52,300	52,300
	PBIT / Funds Employed	9.8%	10.5%	10.5%
	Operating Cash Flow	157,700	162,200	161,500
	PAT / Total Historical Cost Assets	5.8%	6.0%	6.1%