OFFICE OF GAS ACCESS REGULATION

OffGAR WESTERN AUSTRALIA

DRAFT DECISION:

ACCESS ARRANGEMENT

MID-WEST AND SOUTH-WEST GAS DISTRIBUTION SYSTEMS

Submitted by

AlintaGas

INDEPENDENT GAS PIPELINES ACCESS REGULATOR
WESTERN AUSTRALIA

14 March 2000

PREFACE

On 30 June 1999 AlintaGas submitted an Access Arrangement for the Mid-West and South-West Gas Distribution Systems to the Independent Gas Pipelines Access Regulator in Western Australia (the Regulator) for approval under the National Third Party Access Code for Natural Gas Pipeline Systems (the Code).

The Access Arrangement describes the terms and conditions under which AlintaGas will make the Mid-West and South-West Gas Distribution Systems available for use by third parties.

The Regulator assessed the proposed Access Arrangement against the requirements and principles of the *Gas Pipelines Access (WA) Act 1998* which gives effect to the *Gas Pipelines Access (WA) Law*, including the Code. In addition, the Regulator considered issues raised in submissions made on the Access Arrangement by interested parties.

This Draft Decision has been issued by the Regulator in accordance with the requirements of the Code.

Submissions are invited from interested parties to the Draft Decision. Submissions must be delivered to the Office of Gas Access Regulation by 5 May 2000, and should be addressed to:

Mr Robert Pullella
Office of Gas Access Regulation
6th Floor
197 St Georges Terrace
PERTH WA 6000

The Regulator is currently required to issue a Final Decision by 30 April 2000, but will need to extend this period under the provisions of section 2.22 of the Code, recognising that submissions are extended to 5 May 2000.

All submissions must be in writing and should be provided in both hard copy and in electronic format.

Copies of the Draft Decision are available from the Office of Gas Access Regulation at a cost of $25.00 by contacting Mr Robert Pullella on +61 8 9213 1944, or from the Office web site: (http://www.offgar.wa.gov.au/).

KEN MICHAEL
GAS ACCESS REGULATOR

PART A

DRAFT DECISION

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On 30 June 1999, AlintaGas submitted an Access Arrangement for the Mid-West and South-West Gas Distribution Systems to the Independent Gas Pipelines Access Regulator in Western Australia (the Regulator) for approval under *the National Third Party Access Code for Natural Gas Pipeline Systems* (the Code). The Regulator assessed the proposed Access Arrangement against the requirements and principles of the *Gas Pipelines Access (WA) Law* which incorporates the Code as set out in the *Gas Pipelines Access (WA) Act 1998*. In assessing the proposed Access Arrangement, the Regulator also considered issues raised in submissions from interested parties.

The Draft Decision of the Regulator is to not approve the Access Arrangement in its current form. The reasons for this decision are summarised in this part and detailed in Part B of this Draft Decision.

In order for the Access Arrangement to be approved, the Regulator will require the Access Arrangement to be amended and further information to be provided for inclusion in the Access Arrangement Information. These requirements of the Regulator are summarised below under the following headings.

- Non-tariff matters.
- Reference tariffs.

NON-TARIFF MATTERS

Sections 3.1 to 3.20 of the Code require that an Access Arrangement address the following non-tariff matters.

- A **Services Policy**, describing services to be offered, including Reference Services (section 3.1).
- **General Terms and Conditions** for the provision of Reference Services (section 3.6).
- A **Capacity Management Policy**, indicating whether the covered pipeline is to be administered as a Contract Carriage Pipeline or a Market Carriage Pipeline (section 3.7).
- A **Trading Policy**, addressing the transfer of contracted capacity between Users (section 3.9).
- A **Queuing Policy**, defining the priority that Prospective Users have to negotiate for specific capacity (section 3.12).
- An **Extensions/Expansions Policy**, setting out a method for determining whether an extension or expansion to the covered pipeline is or is not to be treated as part of the covered pipeline for the purposes of the Code (section 3.16).

- A **Review Date**, indicating a date on or by which revisions to the Access Arrangement must be submitted and a date on which the revised Access Arrangement is intended to commence (section 3.17).

The Regulator may refuse to approve an Access Arrangement if it includes matters in addition to those listed above that are considered not to be reasonable.

The Regulator's assessment of the adequacy of the Access Arrangement and Access Arrangement Information is summarised below together with statements of amendments that must be made before the Regulator will approve the Access Arrangement.

Services Policy

A Services Policy is provided in Chapter 2 of the Access Arrangement, which commits AlintaGas to making available Reference Services to Prospective Users, and negotiating in good faith for the provision of Non-Reference Services to Prospective Users.

Four types of Reference Services are specified in Division 1 of Chapter 2 and described in Schedules 4, 5 and 6 of the Access Arrangement. The principal features of the Reference Services are as follows.

- Reference Service A: delivery of gas to a delivery point on the high pressure system or medium/low pressure system, with an anticipated delivery of 35 TJ or more of gas each year with a contracted peak rate of 10 GJ or more per hour, and a contract duration of between two and five years.

- Reference Service B1: delivery of gas to a delivery point on the high pressure system or medium/low pressure system, with an anticipated delivery of less than 35 TJ of gas each year or a contracted peak rate of less than 10 GJ per hour, a contract duration of between two and five years, and a requirement of the User for user specific delivery facilities.

- Reference Service B2: delivery of gas to a delivery point on the medium/low pressure system, using standard delivery facilities with a standard 12 m^3/hr meter, and a contract duration of one year.

- Reference Service B3: delivery of gas to a delivery point on the medium/low pressure system, using standard delivery facilities with a standard 6 m^3/hr meter, and a contract duration of one year.

A Haulage Contract for any Reference Service will specify one or more receipt points (where a User's gas is received into the AlintaGas network) and one or more delivery points (the point(s) on the AlintaGas network to which the gas will be transported).

Three types of Non-Reference Services are specified in Divisions 2, 3 and 4 of Chapter 2, respectively.

- Interconnection Service. The terms, conditions and prices upon which an Interconnection Service will be made available are to be negotiated by AlintaGas and the person to whom that service is provided.

- Elements of a Service. A Prospective User will be able to obtain an element of a Reference Service offered by AlintaGas under the Services Policy to the extent that it is practicable and reasonable to provide such an element of a service.

- Listed Ancillary Services. Listed ancillary services will be offered to users of Reference Services B2 or B3 under standard terms and conditions and at a set tariff, whereas users of Reference Services A or B1 will negotiate with AlintaGas regarding the terms and conditions and prices of ancillary services.

The Regulator considered that the contract period for Reference Services B2 and B3 proposed by AlintaGas of exactly one year was unreasonably restrictive and inconsistent with the contract periods offered for comparable services in Access Arrangements for other distribution systems in Australia. The Regulator also had concerns that the Services Policy proposed by AlintaGas did not contain sufficient service and technical information to enable interested parties to understand the services offered by AlintaGas, and did not specify clearly the gas quality specification that would apply to gas entering and being transported through the AlintaGas network.

The following amendments are required before the Access Arrangement will be approved.

Amendment 1

The Access Arrangement should be amended to reference (for information purposes only) the standards and codes that will apply to the services specified in the Services Policy offered by AlintaGas.

Amendment 2

Clause 1 of Schedule 6 of the Access Arrangement should be amended so that a Haulage Contract for Reference Service B2 or Reference Service B3 can have a duration of more than one year and is not constrained to a duration of exactly one year, as proposed by AlintaGas.

Amendment 3

Clause 20 of Chapter 2 of the Access Arrangement should be amended to clarify that, for each gas quality component listed, the most stringent specification contained in the *Gas Standards (Natural Gas) Regulations 1999* and the broadest specification as defined in the Access Arrangement and currently specified in the *Dampier to Bunbury Pipeline Regulations 1998* will prevail.

Amendment 4

Clause 19(1)(d) of Chapter 2 of the Access Arrangement should be amended to include a statement indicating that the minimum prudential and insurance requirements are to be reasonable.

Amendment 5

Clause 19(1)(b) of Chapter 2 should be amended to state that AlintaGas will only enter into a service agreement if it would not deprive any person of a contractual right that existed prior to 30 June 1999, other than an exclusivity right which arose on or after 30 March 1995.

Terms and Conditions

Section 3.6 of the Code requires that an Access Arrangement include the Terms and Conditions on which the Service Provider will supply each Reference Service. The Terms and Conditions included must, in the Relevant Regulator's opinion, be reasonable.

Terms and conditions specific to each Reference Service are set out in schedules 4, 5 and 6 of the Access Arrangement while general terms and conditions applicable to all Reference Services are set out in schedule 7 of the Access Arrangement. Although the terms and conditions upon which Reference Services are to be offered are mostly considered reasonable there are a number of terms and conditions in schedule 7 which are considered as not being reasonable.

The following amendments are required before the Access Arrangement will be approved.

Amendment 6

Clause 47(2) of Schedule 7 of the Access Arrangement should be amended to ensure that AlintaGas will make good, or pay compensation in respect of, damage caused by unreasonable acts of AlintaGas in the course of installing gas delivery facilities.

Amendment 7

Division 12 of Schedule 7 of the Access Arrangement, which relates to interpretation, should be amended to insert a definition of confidential information that is applicable to clause 52, relating to confidentiality, in order to provide greater certainty as to the meaning of confidential information for the purposes of this clause.

Amendment 8

Clause 52(2)(e) of Schedule 7 of the Access Arrangement should be amended to ensure that information of a confidential nature would only be disclosed in the course of any restructuring or sale of AlintaGas if it is the reasonable opinion of the disclosing party that the information is required to be disclosed.

Amendment 9

Schedules 4 and 5 of the Access Arrangement should be amended to specify the minimum frequency that AlintaGas will adopt to verify the accuracy of meters.

Amendment 10

Clause 7(a) of Schedule 7 of the Access Arrangement should be amended to ensure that, if AlintaGas requires a User to provide security for the performance of its obligations under a Haulage Contract, the security must be the minimum amount necessary to protect AlintaGas's legitimate business interests.

Amendment 11

Division 12 of Schedule 7 of the Access Arrangement should be amended to ensure that the general provision that "… in the event or circumstance not within a party's control and which the party, by applying the standard of a reasonable and prudent person, is not able to prevent or overcome …" clearly applies to each of the specific events listed as force majeure events.

Amendment 12

The Access Arrangement should be amended to provide for the waiving of fixed charges of a Reference Tariff for any period in which provision of a Reference Service is interrupted or reduced by a force majeure event.

Amendment 13

Clause 18 of Schedule 7 of the Access Arrangement should be amended so that interest is accrued on underpayments or overpayments after a reasonable period has been given for a party to rectify the underpayment or overpayment, rather than from the actual date of underpayment or overpayment

Amendment 14

Clause 35(d) of Schedule 7 of the Access Arrangement should be amended to ensure that a party cannot be declared in default under the Haulage Contract unless there is an adverse change in the business or financial condition of that party or an event occurs which could, in the reasonable opinion of the other party, materially affect the other party's ability to meet its obligations under the Haulage Contract.

Amendment 15

Clause 38 of Schedule 7 of the Access Arrangement should be amended to ensure that a party has at least 5 business days to remedy a payment default and 15 business days to remedy any other default, once it has received written notice from the other party, before the other party can terminate a Haulage Contract.

Capacity Management Policy

Section 3.7 of the Code requires that an Access Arrangement include a statement (a Capacity Management Policy) that the covered pipeline is either a Contract Carriage Pipeline or a Market Carriage Pipeline. AlintaGas proposes to manage the Mid-West and South-West Gas Distribution Systems as a Contract Carriage Pipeline. This proposal is considered to meet the requirements of the Code.

Trading Policy

Section 3.9 of the Code requires that an Access Arrangement for a covered pipeline, which is described in the Access Arrangement as a Contract Carriage Pipeline, must include a policy that explains the rights of a User to trade its right to obtain a Service to another person (a Trading Policy).

The Trading Policy proposed by AlintaGas makes provision for Bare Transfers and Consent Transfers in a manner which is generally consistent with requirements of the Code. The Regulator did, however, have a concern that the transferee is required to notify AlintaGas at least three business days prior to the utilisation of capacity under a Bare Transfer, which may preclude such transfers at short notice. As a result, it is considered that the Access Arrangement does not meet the requirements of the Code in respect of a Trading Policy.

The following amendment is required before the Access Arrangement will be approved.

Amendment 16 Clause 43(3) of Chapter 5 should be amended to remove the requirement that a transferee must notify AlintaGas at least three business days prior to the utilisation of capacity under a Bare Transfer.

Queuing Policy

Section 3.12 of the Code requires that an Access Arrangement must include a policy for determining the priority that a Prospective User has, as against any other Prospective User, to obtain access to spare capacity and developable capacity (a Queuing Policy). The Code also provides that dispute resolution must be available under section 6 of the Code where difficulties arise in defining the priority that Prospective Users have in respect of negotiation for specific capacity.

A Queuing Policy is provided by AlintaGas in Chapter 6 of the Access Arrangement. Provision is made for a single queue (the "first come first served" queue) for all Prospective Users, irrespective of whether the Prospective User is seeking to increase its contracted peak rate at a given delivery point within an existing service agreement or is seeking to enter a new service agreement. A Prospective User's priority in respect of an application will be determined on a first come first served basis, although AlintaGas may depart from this principle under certain circumstances. The Regulator considers that the Queuing Policy proposed by AlintaGas does not meet the requirements of the Code as it does not, for all circumstances, provide sufficient information to enable Users and Prospective Users to understand in advance how priorities of access to spare capacity or developable capacity are to be determined at times when Access Requests exceed available spare capacity.

The following amendments are required before the Access Arrangement will be approved.

Amendment 17

Clause 53 of the Access Arrangement should be amended to require AlintaGas to advise Prospective Users of an estimate of when capacity may become available, consistent with section 5.6 of the Code, and for AlintaGas to provide revised information to a Prospective User when the timing of the availability of the capacity changes.

Amendment 18

Chapter 6 of the Access Arrangement should be amended to describe how an application at the head of the queue is transformed into a service agreement when the spare or developable capacity sought becomes available, and how and when AlintaGas will inform the applicant.

Amendment 19

Chapter 6 of the Access Arrangement should be amended to describe what will happen to an application if the spare or developable capacity is not accepted by the applicant at the head of the queue.

Amendment 20

Chapter 6 of the Access Arrangement should be amended to describe what would happen to a Prospective User's priority where another Prospective User with an application in the first come first served queue seeks to reduce the capacity requested in its application.

Amendment 21

Chapter 6 of the Access Arrangement should be amended to clarify that an incumbent User, with an existing Haulage Contract that has an option to extend the contract, has priority over an application in the queue for the same capacity when the existing service agreement expires, if the User wishes to extend the duration of the Haulage Contract.

Amendment 22

Clause 49(1)(a) of Chapter 6 of the Access Arrangement should be amended to state that the Queuing Policy will operate on a first come first served principle, unless it is necessary to depart from this principle in order to accommodate, to the extent reasonably possible, the legitimate business interests of the Service Provider and of Users and Prospective Users (section 3.13(b) of the Code) and generate, to the extent reasonably possible, economically efficient outcomes (section 3.13(c) of the Code).

Extensions/Expansions Policy

Section 3.16 of the Code requires that an Access Arrangement include a policy (an Extensions/Expansions Policy) which sets out:

- the method to be applied to determine whether any extension to, or expansion of the Capacity of, the covered pipeline should or should not be treated as part of the covered pipeline for all purposes under the Code;
- how any extension or expansion, which is to be treated as part of the covered pipeline, will affect Reference Tariffs; and
- a description of the New Facilities that will be funded by the Service Provider and the conditions on which the Service Provider will fund the New Facilities.

An Extensions/Expansions Policy is provided by AlintaGas in Chapter 7 of the Access Arrangement. The Extensions/Expansions Policy details the method to be applied to determine whether any extension to, or expansion of the capacity of, the AlintaGas network should or should not be treated as part of the AlintaGas network for the purposes of the Code, and how that will affect the Reference Tariffs.

In assessing the proposed Extensions/Expansions Policy, the Regulator gave consideration to the levying of surcharges in relation to services for which AlintaGas has already built the cost of extensions into Reference Tariffs. While the arrangements proposed by AlintaGas for levying surcharges are appropriate for Reference Services A and B1, where the incremental costs of servicing each additional customer is considered on a case by case basis, the arrangements may not be appropriate for Reference Services B2 and B3. For the latter services, AlintaGas has made allowance in Reference Tariffs for the recovery of costs associated with the meter and the first 20 metres of service pipe, both of which technically comprise extensions to the AlintaGas network. Consequently, the Extensions/Expansions Policy should specifically preclude the levying of a surcharge for a meter and the first 20 metres of service pipe (in respect of B2 and B3 customers).

The following amendment is required before the Access Arrangement will be approved.

Amendment 23 Clause 58 of the Access Arrangement should be amended to specifically exclude the levying of surcharges in respect of costs associated with constructing the first 20 metres of service pipe and providing a meter for the purposes of delivering gas to an end user under Reference Service B2 or B3.

Review Date

Section 3.17 of the Code requires that an Access Arrangement include a date upon which the Service Provider must submit revisions to the Access Arrangement (a revisions submission date), and a date upon which the next revisions to the Access Arrangement are intended to commence (a revisions commencement date).

Chapter 8 of the Access Arrangement specifies the date on which the Access Arrangement will commence, the date AlintaGas will submit revisions to the Regulator and the date AlintaGas intends those revisions to commence.

- AlintaGas proposes that the Access Arrangement commences on the later of 1 January 2000 or a date specified by the Regulator.

- AlintaGas will submit revisions to the Access Arrangement to the Regulator on or before 30 June 2004, with the revisions to commence on 1 January 2005.

The Regulator considered two matters in respect of a revisions date: the timing of the revisions submission date, and trigger mechanisms for the Regulator to initiate a review of the Access Arrangement.

AlintaGas has proposed a revisions submission date of 30 June 2004, which is six months before the proposed revisions commencement date of 1 January 2005. In view of regulatory experience throughout Australia, the Regulator considers that a six-month period is inadequate for assessment of a proposed Access Arrangement and will require that the revisions submission date be bought forward to allow a nine-month period for assessment.

The following amendment is required before the Access Arrangement will be approved.

Amendment 24 Clause 60 of the Access Arrangement should be amended to provide for a revisions submission date of 31 March 2004.

The Regulator has given consideration to whether specific major events should be defined that would trigger an obligation on AlintaGas to submit revisions prior to the revisions submission date. The Regulator, having given regard to the objectives in section 8.1 of the Code, has considered it appropriate to include certain trigger mechanisms in the Access Arrangement.

The following amendments are required before the Access Arrangement will be approved.

Amendment 25 Chapter 8 of the Access Arrangement (Review Date) should be amended to include trigger mechanisms enabling the Regulator, if the Regulator wishes, to initiate a review of the Access Arrangement in response to: – submission to the Regulator by AlintaGas of a change statement entailing an increase in Reference Tariffs;

– changes to taxation arrangements affecting AlintaGas, including any change to the rates of the goods and services tax or corporate income tax;

– increases in quantities of gas distributed above forecast increases by an amount of more than 50 percent of the forecast increases; and

– a change in the provisions or administration of any Act or other law which, in the Regulator's opinion, necessitates a review of the Access Arrangement.

Other Matters Included in the Access Arrangement

Section 2.24 of the Code requires that an Access Arrangement contain the elements and satisfy the principles set out in sections 3.1 to 3.20 of the Code. An Access Arrangement may, however, address matters or provide information beyond the requirements of sections 3.1 to 3.20 of the Code.

Chapter 9 of the Access Arrangement deals with two technical issues additional to those required by sections 3.1 to 3.20 of the Code. These additional requirements are necessary for the integration of third party access to the AlintaGas network with third party access to the pipeline or pipelines used to supply gas into the AlintaGas network.

In considering these matters, the Regulator took into account the factors listed in section 2.24 of the Code concluding that the Access Arrangement was not reasonable in its present form and is therefore not approved in respect of the two additional issues included in the Access Arrangement.

The following amendments are required before the Access Arrangement will be approved.

Amendment 26

Clause 63(3) of Chapter 9 of the Access Arrangement should be amended to make provision for AlintaGas to provide reasonable advance warning of curtailment of supply from the AlintaGas network to an interconnected pipeline.

Amendment 27

Clause 63(2) of Chapter 9 of the Access Arrangement should be amended to ensure that the additional information that AlintaGas may require from a User in respect of designated suppliers of gas to the network should be reasonable and consistent with the information that a prudent operator of the network would require. The Access Arrangement should also provide examples of the type of additional information that AlintaGas may require.

REFERENCE TARIFFS

The Code requires that an Access Arrangement include a Reference Tariff for:

(a) at least one Service that is likely to be sought by a significant part of the market; and

(b) each Service that is likely to be sought by a significant part of the market and for which the Relevant Regulator considers a Reference Tariff should be included.

The principles used to determine Reference Tariffs are to be stated as a Reference Tariff Policy. Both the Reference Tariff Policy and the Reference Tariffs should be designed with a view to achieving the objectives set out in section 8.1 of the Code:

(a) providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service;

(b) replicating the outcome of a competitive market;

(c) ensuring the safe and reliable operation of the pipeline;

(d) not distorting investment decisions in pipeline transportation systems or in upstream and downstream industries;

(e) efficiency in the level and structure of the Reference Tariff; and

(f) providing an incentive to the Service Provider to reduce costs and to develop the market for Reference Services and other services.

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

AlintaGas has proposed Reference Tariffs for the four Reference Services (Reference Services A, B1, B2 and B3). In accordance with the principles established by the Code, AlintaGas used a price path methodology for the determination of Reference Tariffs. With this approach, Reference Tariffs are determined in advance for the Access Arrangement Period. The Reference Tariffs follow paths that are forecast to deliver a revenue stream sufficient to cover projected costs of providing the services.

The Code provides a general procedure for the application of the price path methodology to the determination of Reference Tariffs. The steps in this general procedure are:

- estimation of an Initial Capital Base;
- estimation of Capital Expenditure;
- estimation of Non-Capital Costs;
- estimation of an appropriate Rate of Return;
- specification of a Depreciation Schedule;
- determination of Total Revenue;
- allocation of Total Revenue across services;

- determination of Reference Tariffs; and

- specification of Incentive Mechanisms.

The Regulator considered the Reference Tariffs proposed by AlintaGas in light of each of these steps. The Regulator's conclusions and required amendments to the Access Arrangement in respect of each of these steps are indicated below.

Initial Capital Base

AlintaGas has proposed that an acceptable Initial Capital Base would be one that is based nominally on the DORC values of different asset categories, but with reductions in these values such that the resulting Reference Tariffs would be consistent with an acceptable Reference Tariff outcome for consumers of gas via the AlintaGas network. The criterion of "acceptability" was taken to be a requirement that the Reference Tariffs resulting from a valuation of the Initial Capital Base should not be so high as to give rise to increases in retail gas prices.

To derive an Initial Capital Base, AlintaGas therefore reduced DORC values of each category of assets to levels that purportedly return the same retail prices for gas as currently exist. This valuation is inextricably linked to the methodology used to determine a schedule of Reference Tariffs and the associated assumptions as to the rate of return, and allocation of costs across services. Furthermore, the valuation is dependent upon the assumptions as to costs and margins, other than the costs of gas distribution, that underlie retail gas prices.

The methodology used by AlintaGas to derive an Initial Capital Base is not described in any detail in the Access Arrangement Information. Financial modelling by the Regulator indicates the methodology used by AlintaGas is consistent with the following steps.

- Develop forecasts over the period 2000 to 2003 for sales volumes and average retail prices for gas supplied from the AlintaGas network for each of the classes of customers corresponding to each Reference Service, and calculate forecasts of gross retail revenues for each Reference Service.

- Develop forecasts over the period 2000 to 2003 for gas costs, gas transmission costs, retail costs and retail margins for each of the classes of customers corresponding to each Reference Service, and subtract these costs and margins from the gross retail revenues to leave residual amounts that are the implicit distribution revenues for each Reference Service.

- Calculate the present value of the distribution revenues for each service over the period 2000 to 2003.

- Determine an Initial Capital Base (and values of the various asset classes) that will return the same present value for the target Total Revenue for each service, taking into account forecasts of Non-Capital Costs, Capital Expenditure, depreciation and return on capital.

The total value of the Initial Capital Base derived by AlintaGas is $530.3 million as at 31 December 1998 and is referred to by AlintaGas as a deprival value on the basis that this is the Initial Capital Base that is necessary to maintain forecast revenue. The corresponding

current cost accounting value of the Initial Capital Base as at 31 December 1999, taking into account Capital Expenditure and depreciation in 1999, is $539.4 million.

In order to meet the criterion that the values ascribed to particular classes of assets must return a schedule of Reference Tariffs that would not give rise to increases in retail gas prices for retail gas customers, the reductions in DORC values were not uniform across asset classes. Relatively larger reductions were applied to classes of assets used predominantly to deliver gas to residential and small business consumers. The greatest proportional reduction occurred with "meters and service pipes", "medium/low pressure mains" and "low pressure mains". These assets are used predominantly to service residential and small-business consumers of gas and the reductions were undertaken to avoid increases in the cost of gas to these consumers.

In assessing the value of the Initial Capital Base proposed by AlintaGas, the Regulator considered several alternative valuation methodologies, the valuations that arise from these methodologies, and the advantages and disadvantages of each methodology and valuation in the context of the distribution systems.

In determining the most appropriate Initial Capital Base for the AlintaGas distribution systems, the Regulator has considered a balance of interests between AlintaGas, Users and Prospective Users. In accordance with the proposal by AlintaGas, the Regulator has contemplated a criterion for a balance of interests as the Initial Capital Base being consistent with retail gas prices expected to prevail in the gas market during the Access Arrangement Period. Implicit in this criterion is a premise that the Initial Capital Base would be valued at a level consistent with maintaining projected levels of revenue for the AlintaGas distribution business. While accepting this approach to valuing the Initial Capital Base, the Regulator did, however, revise AlintaGas's proposed Initial Capital Base in accordance with revisions to assumptions used in the estimation of projected distribution revenues and assumptions as to distribution costs that underlie the revenue requirement for the distribution business.

The Regulator has decided that AlintaGas's Initial Capital Base for the Mid-West and South-West Distribution Systems should be $510.4 million as at 31 December 1999.

The following amendment is required before the Access Arrangement will be approved.

Amendment 28 The Access Arrangement and Access Arrangement Information should be amended to reflect an Initial Capital Base of $510.4 million as at 31 December 1999.

Capital Expenditure

AlintaGas provided projections of Capital Expenditure totalling $107.2 million for the Access Arrangement Period. AlintaGas has indicated in the Access Arrangement Information that the proposed Capital Expenditure is driven primarily by the investment required for connection of the forecast number of additional residential customers to the AlintaGas distribution network. Proposed Capital Expenditure is also driven by a need for reinforcing the integrity of the existing network to accommodate forecast increases in gas consumption.

The Regulator made an assessment of the forecast Capital Expenditure on the basis of a breakdown of expenditure and additional supporting information provided by AlintaGas on a confidential basis.

In general, the Regulator considers that the forecast Capital Expenditure is insufficiently substantiated in terms of the requirements set out in section 8.16 of the Code. Furthermore, the Regulator noted that for some items of Capital Expenditure, the forecast unit rates underlying the forecasts were in excess of rates that may be regarded as consistent with efficient costs.

Notwithstanding the insufficient justification for Capital Expenditure forecasts, the Regulator has accepted that New Facilities Investment of the types proposed by AlintaGas may meet the requirements of section 8.16(b) of the Code in respect of net benefits accruing from that investment.

The Regulator accepts AlintaGas's proposed New Facilities Investment for the purposes of determining Reference Tariffs, but has revised downwards the forecast Capital Expenditure to reflect unit rates considered to be consistent with efficient costs. The revised schedule of Capital Expenditure is as follows.

Revised Capital Expenditure (nominal $million; year ending 31 December)

Type of investment	2000	2001	2002	2003	2004	Total
High pressure mains	3.8	3.5	3.0	2.6	2.0	**14.9**
Medium/low pressure mains:						
Capacity reinforcement	0.3	0.1	0.2	0.2	0.1	**0.9**
Infill	0.5	0.2	0.0	0.0	0.0	**0.8**
Re-laying program	2.2	2.5	1.12	0.0	0.0	**5.9**
Mains extensions	3.5	3.7	4.0	4.1	4.2	**19.4**
Meters and service pipes	8.2	7.8	7.8	7.6	7.5	**38.9**
Telemetry and monitoring systems	0.1	0.1	0.1	0.3	0.1	**0.7**
Equipment and vehicles:						
Information systems	3.8	1.4	0.5	1.6	0.6	**7.9**
Vehicles, plant and equipment	3.0	1.1	0.8	1.1	0.7	**6.8**
Buildings	0.1	0.1	0.1	0.1	0.1	**0.5**
Total	**25.5**	**20.5**	**17.7**	**17.7**	**15.3**	**96.6**
Total proposed by AlintaGas	**26.8**	**21.4**	**19.5**	**20.9**	**18.5**	**107.2**

The following amendment is required before the Access Arrangement will be approved.

Amendment 29 The Access Arrangement and Access Arrangement Information should be amended to reflect Capital Expenditure of $96.6 million over the Access Arrangement Period, as described in this Draft Decision and reflecting reductions in forecast unit rates for New Facilities Investment.

The Regulator notes that acceptance of a revised forecast of Capital Expenditure does not mean that the associated New Facilities Investment will automatically be added to the Capital Base after it has occurred. Rather, the Regulator will assess whether the investment meets the criteria of section 8.16 of the Code either at the time of review of the Access Arrangement or, if asked to do so by the Service Provider, at the time at which the investment takes place. In assessing any proposed additions to the Capital Base, the Regulator will require more rigorous demonstration that the investment meets the requirements of section 8.16 of the Code.

Non-Capital Costs

AlintaGas provided projections of Non-Capital Costs totalling $185.3 million for the Access Arrangement Period.

The Regulator made an assessment of the forecast Non-Capital Costs on the basis of a breakdown of expenditure and additional supporting information provided by AlintaGas on a confidential basis. In considering the Non-Capital Costs proposed by AlintaGas, the Regulator assessed whether these costs may meet the requirements of section 8.37 of the Code, that is, whether the proposed costs are consistent with the costs that would be incurred by a prudent Service Provider, acting efficiently, in accordance with accepted and good industry practice, and to achieve the lowest sustainable cost of delivering the Reference Services. In undertaking the assessment, the Regulator notes that the forecasts of Non-Capital Costs do not limit or constrain AlintaGas as to the level or composition of Non-Capital Costs actually realised over the Access Arrangement Period. For this reason, the Regulator gave attention to both the total level of Non-Capital Costs that will be recognised in the derivation of Reference Tariffs, and the individual components of the forecasts.

The Regulator considers that AlintaGas's forecast Non-Capital Costs have been insufficiently justified in the Access Arrangement Information and in other information separately made available for the purposes of assessment. For some Non-Capital Cost items, the forecasts do not appear to make adequate allowance for reasonable efficiency gains and cost reductions over the Access Arrangement Period. This particularly applies to timetables for projected efficiency gains in maintenance activity and to levels and costs of unaccounted for gas.

Notwithstanding the absence of adequate justification for the cost forecasts, the costs appear reasonable in comparison with Non-Capital Costs of other distribution systems. Furthermore, the time trend of Non-Capital Costs is for these costs to remain approximately constant in real terms over the Access Arrangement Period despite expansions to the distribution network and increases in customer numbers.

In view of the above, the Regulator has accepted the forecast Non-Capital Costs subject to amendments to reflect implementation of efficiency improvements proposed by AlintaGas over three rather than five years, and a reduction in unaccounted for gas from the level of 3 percent proposed by AlintaGas to 2.5 percent by 2004.

The revised schedule of Non-Capital Costs is as follows.

Revised Non-Capital Costs
(nominal $million; year ending 31 December)

Category	2000	2001	2002	2003	2004	Total
Wages and salaries	11.9	11.9	12.2	12.8	13.5	**62.4**
Materials and supply	14.4	13.9	14.2	14.3	15.1	**71.9**
Outsourced services	1.5	1.5	1.5	1.6	1.6	**7.7**
Property taxes	0.2	0.2	0.2	0.2	0.2	**1.0**
Marketing	1.3	1.4	1.4	1.4	1.5	**7.0**
Corporate overheads	4.2	3.4	2.9	2.9	2.9	**16.3**
Unaccounted for gas	3.0	3.0	2.9	3.0	2.9	**14.8**
Total	**36.4**	**35.2**	**35.4**	**36.3**	**37.7**	**181.1**
AlintaGas proposed total Non-Capital Costs	**37.0**	**36.2**	**36.6**	**37.2**	**38.3**	**185.3**

The following amendment is required before the Access Arrangement will be approved.

> Amendment 30
>
> The Access Arrangement and Access Arrangement Information should be amended to reflect Non-Capital Costs of $181.1 million over the Access Arrangement Period, as described in this Draft Decision and reflecting more rapid implementation of efficiency gains and lower levels of unaccounted for gas.

Rate of Return

For the purposes of determining Total Revenue, AlintaGas calculated the return on each group of assets that form the AlintaGas network by applying a pre-tax real rate of return to the current cost accounting value of that group of assets at the beginning of each year.

The rate of return was calculated as a weighted average of the returns (weighted average cost of capital or WACC) applicable to the assumed levels of equity and debt used to finance the assets which form the AlintaGas network. AlintaGas has proposed a real pre-tax WACC of 8 percent.

In assessing the derivation of the WACC by AlintaGas, the Regulator obtained advice from the Allen Consulting Group (ACG). This advice comprised:

- a review of the methodologies employed by AlintaGas and the reasonableness of the values adopted for specific variables, and suggestion of alternative values of variables where appropriate; and
- re-calculation of the cost of capital applicable to the AlintaGas distribution business based on values of input variables determined to be appropriate.

On the basis of the advice provided by ACG, the Regulator drew conclusions on appropriate values of input variables and the value of the WACC. A comparison of the values of input variables used by AlintaGas and the revised values of the Regulator is as follows.

Estimation of the rate of return

Parameter	Parameter symbol	Value used by AlintaGas	Value proposed by the Regulator
Risk Free Rate (Nominal)	R_f	5.65%	6.85%
Risk Free Rate (Real)	R_f	3.07%	3.65%
Market Risk Premium	–	6.50%	6.0%
Equity Beta	b_e	0.85	1.05
Debt Beta	b_d	0.235	0.22
Cost of Debt Margin		1.53%	1.30%
Corporate Tax Rate	T	36%	36%
Franking credit value	g	30%	50%
Debt to total assets ratio	D/V	55%	60%
Equity to total assets ratio	E/V	45%	40%
Expected inflation	p_e	2.5%	3.09%

The WACC values for the AlintaGas distribution business generated by the *market practice* and *reverse* transformations are 8.0 and 6.3 percent, respectively. The Regulator considers that a real pre-tax WACC somewhere towards the upper end of the range is reasonable. On the basis of financial advice, the Regulator considers a real pre-tax WACC of 7.9 percent and a nominal pre-tax WACC of 11.2 percent to be appropriate for the AlintaGas distribution business.

Implicit in these WACC values are the following rates of return on equity.

Returns on equity implicit in WACC values

Nominal post-tax return on equity	13.2 percent
Real post-tax return on equity	9.8 percent
Nominal pre tax return on equity	15.9 percent
Real pre-tax return on equity	12.4 percent

The following amendment is required before the Access Arrangement will be approved.

> Amendment 31
>
> The Access Arrangement and Access Arrangement Information should be amended to reflect a pre-tax real rate of return of 7.9 percent, and a pre-tax nominal rate of return of 11.2 percent.

Depreciation

AlintaGas determined a Depreciation Schedule for each group of assets that form the AlintaGas network. Depreciation for each group of assets was calculated using the Current Cost Accounting (CCA) method. In applying this method, regulatory asset values were adjusted each year to take into account new facilities investment, and the depreciation of existing and new facilities, during the year. Depreciation was calculated on a straight line basis on the adjusted regulatory asset values. Assets in each group were depreciated over the assumed economic life. The resulting depreciation was then further adjusted for the change in nominal asset values during the year caused by inflation.

In assessing AlintaGas's proposed Depreciation Schedule, the Regulator considered the assumptions as to asset lives and AlintaGas's application of the CCA methodology in calculating depreciation allowances.

The Regulator considers AlintaGas's assumptions as to asset lives to be reasonable.

The Regulator assessed AlintaGas's derivation of the Depreciation Schedule against accounting standards described in the Statement of Accounting Practice No. 1: Current Cost Accounting. An inconsistency was observed between AlintaGas's methodology and the accounting standard in regard to the relative timing of depreciation and asset inflation for Capital Expenditure. The Regulator also revised the Depreciation Schedule according to revisions made to the Initial Capital Base and Capital Expenditure. The revised Depreciation Schedule is as follows.

Revised Depreciation Schedule (nominal $million; year ending 31 December)

Asset Group	2000	2001	2002	2003	2004	Total
Mains:						
High pressure	1.4	1.5	1.5	1.6	1.6	7.6
Medium pressure	3.5	3.6	3.8	3.9	4.0	18.8
Medium low pressure	2.3	2.4	2.5	2.5	2.6	12.3
Low pressure	0.9	0.9	1.0	1.1	1.1	5.0
Secondary gate stations	0.1	0.1	0.1	0.1	0.1	0.5
Regulators	0.3	0.4	0.4	0.4	0.4	1.9
Meters and service pipes	4.8	5.3	5.7	6.2	6.7	28.8
Equipment and vehicles	3.1	3.7	4.0	4.3	4.6	19.6
Buildings	0.1	0.1	0.1	0.1	0.1	0.4
Total	16.5	17.9	19.0	20.1	21.3	94.8
AlintaGas proposed total depreciation	**17.4**	**18.8**	**20.0**	**21.2**	**22.4**	**99.8**

The following amendment is required before the Access Arrangement will be approved.

> Amendment 32
>
> The Access Arrangement and Access Arrangement Information should be amended to reflect depreciation costs over the Access Arrangement Period of $94.8 million, as described in this Draft Decision.

Total Revenue

AlintaGas used a cost of service methodology to determine a Total Revenue requirement for the distribution systems. Total Revenue for each year of the Access Arrangement Period was calculated as the sum of:

- a return on the Capital Base;
- depreciation of the Capital Base;
- a return on working capital; and
- Non-Capital Costs.

On the basis of analysis of the information provided by AlintaGas, the Regulator considers the Total Revenue proposed by AlintaGas needs to be revised to reflect the following.

- Revisions to Capital Expenditure as described in section 5.4 of this Draft Decision.

- Revisions to Non-Capital Costs as described in section 5.5 of this Draft Decision.
- Correction of a systematic bias in the CCA calculation of capital costs.
- Amendments to the working capital requirement and the methodology used to calculate a return on working capital.

The systematic bias in the CCA calculation of return on capital arises from an implicit assumption made by AlintaGas that capital costs (depreciation plus return on capital) are incurred (on average) about 6 months before revenue is received, whereas these occur at similar rates over each year. This assumption has the effect of producing an upward bias in the return on capital, and hence in the Total Revenue requirement, of $5.6 million over the Access Arrangement Period.

The allowance for a return on the working capital employed in providing Reference Services was determined by applying the pre-tax nominal WACC to an estimated working capital requirement of $13.0 million in the first year of the Access Arrangement, and to values of working capital in subsequent years escalated annually at a rate of one plus the inflation rate. In the final year, the return was calculated on half of the value of the working capital, representing the average value of working capital for the year.

The Regulator considers that the level of working capital should be determined on the basis of the number of days, on average, that expenses are due prior to revenue being received – the "net lag". By reference to other distribution businesses in Australia, the Regulator considers a net lag of 100 days to be a reasonable value for the AlintaGas distribution business, corresponding to a working capital requirement of $10.0 million in 2000.

AlintaGas has proposed escalating the value of working capital each year by a factor of one plus the rate of change in the CPI, and calculating a return on working capital by multiplying by the nominal pre-tax rate of return. This is inconsistent with the calculation of a rate of return where pre-tax nominal rates are used. The Regulator considers that the return on working capital should be determined by multiplying the nominal pre-tax rate of return by a level of working capital that is not escalated for inflation.

The Regulator revised the Total Revenue requirement for the distribution systems according to revisions made to the Initial Capital Base, Capital Expenditure, Non-Capital Costs and working capital, and corrections to the calculation of the return on capital and the return on working capital. The revised Total Revenue is as follows.

Revised Total Revenue (nominal $million)

	2000	2001	2002	2003	2004
Return on Capital	41.2	42.7	43.8	44.7	45.5
Depreciation	16.5	17.9	19.0	20.1	21.3
Return on Working Capital	1.1	1.1	1.1	1.1	0.6
Non-Capital Costs	36.4	35.2	35.4	36.3	37.7
Total Revenue	**95.2**	**96.9**	**99.3**	**102.3**	**105.1**
AlintaGas proposed Total Revenue	**101.1**	**103.4**	**106.4**	**109.4**	**112.2**

The following amendments are required before the Access Arrangement will be approved.

Amendment 33

The Access Arrangement and Access Arrangement Information should be amended to reflect a working capital requirement of $10.0 million in each year of the Access Arrangement Period and a return on working capital determined by multiplication of the level of working capital by the nominal pre-tax rate of return.

Amendment 34

The Access Arrangement and Access Arrangement Information should be amended to reflect a Total Revenue requirement as follows:

Year	**2000**	**2001**	**2002**	**2003**	**2004**
Revenue ($million)	95.2	96.9	99.3	102.3	105.1

Revenue Allocation

In determining Reference Tariffs, a Service Provider must determine (explicitly or implicitly) the costs or share of costs of pipeline operation that will be recovered through each Reference Service.

AlintaGas used a fully distributed cost model to allocate the cost constituents of Total Revenue across the four Reference Services. In broad terms, costs were allocated on the basis of the use of different classes of assets in provision of each Reference Service.

The allocation of the cost constituents of Total Revenue across services effectively determines the average tariff for gas distribution for each service. The revenue allocation proposed by AlintaGas for the year 2000 and the average distribution tariff for each service are indicated as follows.

AlintaGas's proposed allocation of Total Revenue across services (2000)

Reference Service	Revenue Allocation	Average Distribution Tariff
A	8.3 million	$0.54/GJ
B1	16.2 million	$4.40/GJ
B2	5.3 million	$5.99/GJ
B3	71.3 million	$9.06/GJ
Total	101.1 million	$3.63/GJ

In considering the allocation of Total Revenue between the four Reference Services, the Regulator considered criteria of "economic efficiency" and "equity".

Economic efficiency considerations would generally require that the revenue allocated to each service would cover at least the avoidable cost of providing the service. For common or fixed costs, and particularly capital costs (return on capital and depreciation), economic efficiency would require that these costs be allocated to services in a manner that minimises the deviation in decisions of Users from a situation in which Users paid only the avoidable cost of a service.

Equity considerations, on the other hand, would generally require that the revenue allocated to each service would cover at least the avoidable cost of providing the service, but would also require that common costs be allocated such that each service bears an "equitable" share of these costs. Allocation of costs on the basis of the equity criterion is generally consistent with a fully distributed cost methodology that assigns directly identifiable costs to services, along with a share of fixed/common costs that are not related to any particular service.

AlintaGas's allocation of capital costs (return on capital and depreciation) and other common costs (marketing costs, corporate costs and the return on working capital) using a fully distributed cost model is consistent with equity considerations. The Regulator considers that a fully distributed cost allocation of capital costs may be more acceptable to Users than an alternative allocation based only on efficiency criteria. A fully distributed allocation of capital costs is also consistent with regulatory precedent in decisions for other Australian transmission pipelines and distribution systems. On this basis, the Regulator considers AlintaGas's proposed allocation of capital costs to be acceptable.

The avoidable costs of service provision would arise predominantly in relation to operating and maintenance costs – that component of Non-Capital Costs other than marketing costs and corporate costs. AlintaGas's allocation of operating and maintenance costs involved, in part, the allocation of these costs to asset classes on the basis of ratios of the replacement cost of assets in each class to the total replacement cost of all assets. This allocation methodology is, in principle, inconsistent with ensuring that the revenue allocated to each service would cover at least the avoidable cost of providing the service.

A more appropriate methodology for allocation of operating and maintenance costs would be to allocate these costs directly to assets or services on the basis of the type of operating activity to which the costs relate. Common operating costs could be allocated in a manner

reflecting a proportional sharing of these costs across services. Such a methodology would be consistent with ensuring that the revenue recovered from each service would cover at least the avoidable cost of providing the service. Notwithstanding this, however, the Regulator notes that the bulk of the costs allocated to each service comprise capital costs. As a consequence, the revenue recovered from each service would in all probability cover the avoidable cost of providing the service regardless of the methodology for allocating operating and maintenance costs. On this basis, the Regulator will not require a change in the allocation of operating and maintenance costs.

While the Regulator accepts AlintaGas's methodology for allocation of Total Revenue, the allocation of revenue across services will vary from that proposed by AlintaGas as a result of revisions to underlying cost parameters. The revised revenue allocation is shown below.

AlintaGas proposed allocation of Total Revenue across services (2000)

	AlintaGas Proposed Allocation		Revised Allocation	
Reference Service	**Revenue Allocation**	**Average Distribution Tariff**	**Revenue Allocation**	**Average Distribution Tariff**
A	8.3 million	$0.54/GJ	7.8 million	$0.51/GJ
B1	16.2 million	$4.40/GJ	15.2 million	$4.13/GJ
B2	5.3 million	$5.98/GJ	5.0 million	$5.63/GJ
B3	71.3 million	$9.06/GJ	67.2 million	$8.54/GJ
Total	101.1 million	$3.63/GJ	95.2 million	$3.42/GJ

Over the Access Arrangement Period, the reduction in revenues proposed by the Regulator gives rise to a reduction in the discounted weighted average tariff of 5 percent.

Reference Tariffs

The final stage of cost allocation is the allocation of target revenue for each Reference Service to the various charges that make up each Reference Tariff. The Code does not establish explicit rules or guidelines for the structuring of Reference Tariffs. However, in setting out the general objectives for Reference Tariffs and a Reference Tariff policy, section 8.1 of the Code states that a Reference Tariff and Reference Tariff Policy should be designed with a view to achieving efficiency in the level and structure of the Reference Tariff.

In addition to the requirements of the Code, further requirements in respect of the setting of Reference Tariffs are imposed by the *Gas Pipelines Access (Western Australia) Act 1998* on the Regulator. Section 38 of the Act requires the Regulator to take into account the fixing of appropriate charges as a means of extending effective competition in the supply of natural gas to residential and small business consumers. "Appropriate charges" refers to charges for the use of the pipeline to transport small quantities of natural gas that will enable suppliers to compete for the custom of residential and small business consumers. "Small quantities" refers to a quantity of gas that is less than a quantity prescribed by the Minister, but is in any

case a quantity of less than one terajoule in any period of 12 consecutive months that is transported to a single metered connection. In respect of the AlintaGas distribution systems, this would correspond to supply of gas under Reference Services B2 and B3.

AlintaGas has structured Reference Tariffs to recover the target revenue allocated to each service on the basis of standing charges that would apply uniformly to all Users of a Service and demand and/or usage charges that vary for each User in proportion to their level of use of a service.

The Reference Tariffs proposed by AlintaGas are indicated below. Tariffs have been set only for the first year of the Access Arrangement Period.

AlintaGas's proposed Reference Tariffs

Reference Service	Standing Charge	Block Structure	Demand Charge	Usage Charge
	($/annum)		**($/GJ–km/year)**	**($/GJ–km)**
A	50,000.00	First 10 km	179.29	0.04675
		> 10 km	89.64	0.02337
				($/GJ)
B1	500.00	–	–	4.35
B2	200.00	First 100 GJ	–	5.46
		> 100 GJ	–	4.91
B3	25.00	First 15 GJ	–	8.72
		Next 30 GJ	–	6.54
		Next 55 GJ	–	5.67
		>100 GJ	–	5.23

In addition to the above charges, the Access Arrangement makes provision for the Reference Tariffs for Reference Services A and B1 to include user specific charges for user specific delivery facilities.

The Regulator considers that the structure of Reference Tariffs should be a matter of commercial discretion for the Service Provider, subject to any proposed tariff structure not being inconsistent with broad criteria of efficiency and equity.

Public submissions on the Access Arrangement raised concerns in relation to the proposed determination of charges for user specific charges and the proposed tariff structure for Reference Service A.

AlintaGas has indicated to the Regulator that the user specific charge would comprise an amortised cost of the user specific delivery facilities over a cost recovery period determined on the basis of the characteristics and circumstances of individual Users.

The Regulator accepts that it is reasonable for user specific charges to be determined on a case by case basis for individual Users of Reference Services A and B1. However, the Regulator considers that Users can reasonably expect that the Access Arrangement should indicate the general methodology to be used in calculating the user specific delivery charges and the rate of return implicit in amortisation of costs of user specific delivery facilities.

The following amendment is required before the Access Arrangement will be approved.

Amendment 35 The Access Arrangement should be amended to include a statement of general methodology for the determination of user specific delivery charges, and to indicate the rate of return implicit in amortisation of costs of user specific delivery facilities.

Several public submissions on the Access Arrangement raised concerns about the proposed tariff structure for Reference Service A. In particular, submissions addressed:

- the setting of demand and usage charges on the basis of distance from the nearest transmission pipeline regardless of which transmission pipeline the gas is sourced from for the particular User; and
- the block structure of the tariff for Reference Service A that provides for different demand and usage charges for the first 10 km distance of a User from a transmission pipeline and any distance in excess of 10 km.

The Regulator considers that the general structure of the tariff for Reference Service A is consistent, in principle, with efficiency and equity considerations. However, the Regulator had concerns with regard to AlintaGas's argued basis for differences in distance-based charges, and to the possibility that the proposed tariff structure may give rise to abrupt large changes in gas distribution costs relative to distribution costs that would be incurred under the current regulatory regime (charges set under the *Gas Distribution Regulations 1996*).

The Regulator also had concerns as to the proposed tariff structures for Reference Services A and B1 and the potential for these tariff structures to motivate inefficient use of gas. Where gas is delivered to a User at quantities close to 35 TJ of gas per year and at a contracted peak rate of close to 10 GJ/hour, there may be no material practical difference in the nature of the delivery service provided to the User, regardless of whether this service is provided as Reference Service A or Reference Service B1. However, by virtue of the different tariff structures for Reference Service A and Reference Service B1, the User may face substantially different costs of gas distribution depending upon the service which the User is eligible to receive. The differences in cost may motivate the User (or the end user of the gas) to alter the level or rate of gas use solely for the purpose of becoming eligible for a distribution service with a lower average tariff. This may result in the inefficient use of gas resources.

The following amendments are required before the Access Arrangement will be approved.

Amendment 36

Should AlintaGas wish to maintain differences in demand and usage charges for Reference Service A on the basis of differences in pipeline construction costs, these charges (clause 21 of the Access Arrangement) should be amended to reflect available information on cost differentials.

Amendment 37

Clause 21 of the Access Arrangement should be amended to provide a tariff structure for Reference Service A (or a succession of tariff structures for each year of the Access Arrangement Period) that accommodates a reasonable transition to the Reference Service A tariff from distribution tariffs that would have occurred for Users under the *Gas Distribution Regulations 1996*.

Amendment 38

Clauses 21 and 22 of the Access Arrangement should be amended to provide tariff structures for Reference Services A and B1 that allow for a reasonably seamless transition in gas distribution charges between these two services.

In regard to tariff structures for Reference Services B2 and B3, the Regulator assessed whether the levels and structures of distribution tariffs for Reference Services B2 and B3 are consistent with retail margins in the supply of gas that are sufficiently large to enable gas traders to enter the market for gas supply to small-business and residential customers.

By virtue of the proposed block structures of retail and distribution tariffs, retail margins for individual customers of Reference Services B2 and B3 will differ for different gas-quantity blocks. The Regulator has noted that the proposed tariff structure for Reference Service B3 provides for very low or negative retail margins for some gas quantity blocks. This could impede the development and continuation of effective competition in the supply of natural gas to these customers. The Regulator considers that the tariff structure for Reference Service B3 should make provision for reasonable retail margins.

The following amendment is required before the Access Arrangement will be approved.

Amendment 39

Clause 24 of the Access Arrangement should be amended to provide a tariff structure for Reference Service B3 that makes provision for reasonable retail margins for a User providing gas to residential end users of gas, both in total for any residential end user and for any gas-quantity block.

The Regulator notes that whilst regulated retail prices for gas remain in force, the retail margins and consequences for contestability and competition in the retail gas markets will be an ongoing matter of concern in the regulation of distribution tariffs, and in any reviews of the Access Arrangement.

Reference Tariff Variation and Incentive Mechanisms

AlintaGas has specified Reference Tariffs only for the first year of the Access Arrangement Period and proposed that tariffs in subsequent years are able to be varied in accordance with an "average revenue" or "revenue yield" regime, and in accordance with provisions for pass through of costs arising from taxation and regulatory changes.

The revenue yield form of price control would allow for an increase in Reference Tariffs in each year of the Access Arrangement Period subject to a constraint that the forecast average revenue (per gigajoule of gas delivered) for the year in which the tariffs will apply does not exceed a specified maximum allowed average revenue for that year. The revenue yield mechanism proposed by AlintaGas allows AlintaGas to vary Reference Tariffs at its discretion subject to two constraints:

i. a limit on changes to Reference Tariffs such that the forecast average revenue for any year does not exceed a maximum allowed average revenue determined in accordance with a "CPI–X" constraint, and adjustments reflecting differences between forecast and realised sales for each Reference Service in previous years; and

ii. a limit on changes to Reference Tariffs such that the change to any particular Reference Tariff component in any year does not exceed the maximum allowed value for that tariff determined in accordance with a "CPI+Y" constraint.

The Access Arrangement also provides for Reference Tariffs to be changed as a result of pass through of taxation and regulatory changes, including pass through of variation in taxes, charges, levies, imposts and fees, or costs arising from a change in the regulatory environment.

AlintaGas has proposed that changes to Reference Tariffs be implemented through submission to the Regulator of "variation proposals" and "change statements". The Access Arrangement seeks to impose certain obligations on the Regulator in regard to the process for approval or non-approval of the proposed tariff variations.

In assessing the proposed provisions for changes to Reference Tariffs, the Regulator had concerns in regard to:

- obligations imposed on the Regulator in regard to the process for approval or non-approval of the proposed tariff variations;
- provisions for review of any decision by the Regulator to not approve a change in Reference Tariffs;
- inappropriate incentives in the revenue-yield methodology for variations in Reference Tariffs; and
- the determination by AlintaGas of the X factor used in the CPI–X annual adjustments to maximum allowed average revenue.

The determinations of the Regulator on these matters are indicated below.

Approval of Variation Proposals and Change Statements

In regard to approval of changes to Reference Tariffs, the Access Arrangement seeks to establish:

- the processes by which the Regulator would be advised of the proposed changes to Reference Tariffs;
- conditions under which the Regulator must approve the proposed changes;
- time limits for the Regulator to notify AlintaGas of a decision to approve or not approve proposed changes, before the proposed changes are deemed to have been approved;
- obligations of the Regulator in respect of providing reasons to AlintaGas for not approving a proposal to change Reference Tariffs; and
- provision for AlintaGas to seek review of any decision by the Regulator to not approve a proposal to change tariffs as if the decision was a decision to which section 38 of schedule 1 of the *Gas Pipelines Access (WA) Act 1998* applies.

While the Regulator accepts that some certainty with respect to the approval of tariffs is desirable, it is also noted that provisions that remove any flexibility on the part of the Regulator reduce the ability of the Regulator to audit proposed changes to ensure compliance with the Access Arrangement. This would be of particular concern with the proposed revenue yield formula for variation of Reference Tariffs, for which the Regulator would be under some obligation to audit volume forecasts and tariff calculations, and for the pass through of changes in taxation and regulation that may be complex. Furthermore, for pass through of changes in taxation and regulation, it may be appropriate for public consultation prior to the Regulator arriving at a decision on changes to Reference Tariffs. For these reasons changes to Reference Tariffs should be subject to the approval of the Regulator.

The Regulator also considers that it is not acceptable for a Service Provider to impose obligations upon the Regulator within an Access Arrangement. The proposed process for the Regulator to be advised of and to make a decision on proposed variations to Reference Tariffs or pass through of changes in taxation or regulation should therefore not impose any such obligations.

The following amendments are required before the Access Arrangement will be approved.

Amendment 40 Clause 1 of schedule 2 and clause 2 of schedule 3 of the Access Arrangement should be amended to make variations to Reference Tariffs and the pass through of changes in taxation and regulation subject to the approval of the Regulator.

Amendment 41

Clause 1 of schedule 2 and clause 2 of schedule 3 of the Access Arrangement should be amended so as to not impose obligations on the Regulator in respect of decisions by the Regulator to approve or not approve proposed variations to Reference Tariffs or pass through of changes in taxation and regulation, other than as provided for by the Code in respect of a review of an Access Arrangement.

Review of Decisions of the Regulator

In regard to review of any decision by the Regulator to not approve a proposed change to Reference Tariffs, the Access Arrangement seeks to make such a decision a matter that can be reviewed by the Western Australian Gas Review Board. Under section 38(1) of schedule 1 to the *Gas Pipelines Access (WA) Act 1998*, a person's right to apply to the Western Australian Gas Review Board for a review of a decision of the Regulator depends on whether or not the decision is of a type mentioned in section 38(13) of Schedule 1. Section 38(13) of schedule 1 does not make reference to decisions on changes to Reference Tariffs. As a consequence, the proposal by AlintaGas effectively seeks to extend the provisions of the Act by conferring rights to appeal in regard to changes to Reference Tariffs. The Regulator does not consider it appropriate for an Access Arrangement to seek to extend the provisions of the Act by conferring rights to appeal in regard to changes to Reference Tariffs.

The following amendment is required before the Access Arrangement will be approved.

Amendment 42

Clauses 1(6) of schedule 2 and 2(4) of schedule 3 of the Access Arrangement should be amended to remove provisions for AlintaGas to seek a review of a decision by the Regulator to not approve changes to Reference Tariffs as though such a decision was a decision to which section 38 of schedule 1 of the *Gas Pipelines Access (WA) Act 1998* applies.

Revenue-Yield Form of Price Control

The revenue yield from of price control would allow AlintaGas to raise tariffs over the Access Arrangement Period subject to the CPI-X constraint on average revenue, and to "re-balance tariffs (i.e. to alter cost allocations across References Services) subject to a CPI+Y constraint that limits the extent that any one tariff may change in a given year.

In principle, the Regulator agrees that it may be desirable for AlintaGas to have the ability to re-balance Reference Tariffs during the Access Arrangement Period. Furthermore, it is acknowledged that the revenue yield form of price control proposed by AlintaGas creates many of the incentive properties that are described in the Access Arrangement Information, for example the incentive to minimise costs. However, it is noted that there are also several well documented problems with this particular form of price control. The Regulator has several concerns as to the implications of this form of price control for efficiency incentives for AlintaGas and for competition in the retail gas market. These concerns relate to:

- incentives for inefficient pricing resulting in the tariffs for particular services, or components of tariffs, not reflecting the costs associated with provision of the service or particular components of services;

- incentives for strategic pricing of distribution services that may impede the introduction and maintenance of competition into the retail gas market;

- high levels of complexity and potential expense in regulating and administering variations in Reference Tariffs; and

- the potential masking of impacts of discounts provided on particular services or to particular Users.

For AlintaGas, the Regulator considers that the revenue yield form of price control has insufficient merits to compensate for the concomitant incentives for inefficient pricing of certain services and the potentially high administrative complexity and regulatory costs. While an alternative form of price control such as the "tariff basket" control would negate some of the problems of the revenue yield approach, including both some of the complexity and incentive problems, problems would remain as a result of AlintaGas having common ownership of both distribution and retail businesses.

The Regulator has thus concluded that the provisions for tariff re-balancing should be removed from the Access Arrangement and that a "price cap" form of price control be implemented. The price cap form of price control does not negate the possibility for AlintaGas to re-balance Reference Tariffs over the Access Arrangement Period, but would require any such re-balancing to be undertaken as a revision of the Access Arrangement in accordance with relevant provisions of part 2 of the Code. In view of the potential implications of tariff re-balancing for competition in the retail gas market, the Regulator considers that the public scrutiny provided for in a revision of the Access Arrangement is appropriate for any re-balancing of Reference Tariffs.

The following amendment is required before the Access Arrangement will be approved.

Amendment 43 Schedule 2 of the Access Arrangement should be amended to remove provisions for re-balancing of Reference Tariffs and to implement a price-cap mechanism for the variation of Reference Tariffs.

Determination of the X Factor

The methodology that AlintaGas has used to determine the value of the X factor in the CPI–X revenue adjustment is as follows.

- The present value of Total Revenue over the Access Arrangement Period is calculated.

- An average price for the distribution systems in the year 2000 (in $/GJ) is calculated by dividing the Total Revenue for that year by forecast throughput for the year to derive an average price ($/GJ) for the system in that year.

- The average price is then escalated annually by CPI–X (X at this stage is unknown) to derive average prices for years 2001 to 2004.

- An expected revenue for each of the years 2001 to 2004 is calculated as the product of the forecast throughput and average price for that year.

- A value of X is determined so that the present value of expected revenue (as defined above) is equal to the present value of Total Revenue. The value of X thus determined by AlintaGas was 0.0079.

An implicit assumption in the AlintaGas calculation of the X factor is that the mix of throughput remains constant over the period. If some parts of the market grow more quickly than others, and those different parts of the market pay different average tariffs, then the system wide average tariffs will not remain constant over the period. This is the case for AlintaGas. Reference Services B2 and B3 are the most rapidly growing components of the market and the tariffs for these services are much greater than the system wide average. Accordingly, the system wide average tariff would increase over the period. As a consequence, AlintaGas's methodology for calculation of the X factor would lead to a systematic upward bias of Reference Tariffs and revenue after CPI–X adjustments.

The Regulator has re-calculated the X factor using a methodology that corrects for this bias, and also corrects for changes to other costs underlying the Total Revenue requirement for the Access Arrangement period. This methodology is as follows.

- The present value of Total Revenue over the Access Arrangement Period is calculated (as with the AlintaGas methodology).

- The average tariff for each of the Reference Services for the year 2000 is determined on the basis of AlintaGas's cost allocation model, and these prices are assumed to escalate by CPI-X (X at this stage is unknown) to derive average prices for 2001 to 2004.

- The average price for each Reference Service is escalated annually by CPI–X (X at this stage is unknown) to derive average prices for years 2001 to 2004.

- An expected revenue for each Reference Service for the years 2000 to 2004 is calculated by multiplying the average price for each service by the forecast throughput for each service as indicated in section 6.4 of the Access Arrangement Information.

- A value of X is determined so that the present value of expected revenue over the period is equal to the present value of Total Revenue. The value of X thus determined is 2.62 percent (cf. 0.79 percent as proposed by AlintaGas).

An X factor of 2.62 appears, on face value, to be relatively high in comparison with some other Access Arrangements and regulatory decisions for gas distribution systems for which X factors in the range of 1.0 percent to 2.4 percent have been adopted. However, the X factors are not necessarily comparable due to different methodologies for determination. The calculation methodology used by AlintaGas gives rise to an X factor that reflects efficiency gains and falling unit costs that are already incorporated into cost forecasts, but does not impose any requirements for efficiency gains on AlintaGas other than have already been incorporated into the cost forecasts used in the determination of Total Revenue and Reference

Tariffs. The X factor of 2.62 is comparable with X factors for at least one other distribution system where a similar calculation methodology has been used. In contrast, an X factor based only on unit cost reductions over and above the efficiency gains incorporated into cost forecasts may be substantially lower. The CPI–X constraint on tariff variation for AlintaGas is comparatively lenient as an incentive mechanism as it does not seek to impose any incentive for efficiency gains on AlintaGas other than those already contemplated and incorporated into cost forecasts. Prior to issue of a Final Decision on the AlintaGas Access Arrangement, the Regulator will consider whether an additional incentive for efficiency gains is warranted.

Amendment 44 Clause 15 of schedule 2 of the Access Arrangement should be amended such that the "X" value in a CPI–X price cap mechanism is not less than 2.62 percent.

It is noted that AlintaGas has proposed using the All-Groups CPI measure for Perth to escalate Reference Tariffs. The general regulatory approach in Australia to allow for inflation is to use a measure of economy-wide inflation, such as the Eight Capital City, All-Groups CPI measure as published by the Australian Bureau of Statistics. Furthermore, the CPI measure used for inflation adjustment of tariffs should exclude effects of the goods and services tax. The Regulator supports this approach.

The following amendment is required before the Access Arrangement will be approved.

Amendment 45 Clause 14 of schedule 2 of the Access Arrangement should be amended such that the Consumer Price Index (CPI) refers to the Eight Capital City, All-Groups CPI measure, exclusive of the impact of the goods and services tax, as published by the Australian Bureau of Statistics.

Fixed Principles

A Reference Tariff Policy may provide that certain elements of the Reference Tariff Policy (Fixed Principles) are fixed for a specified period and not subject to change when a Service Provider submits reviews to an Access Arrangement without the agreement of the Service Provider. The period during which the Fixed Principle may not be changed is the Fixed Period.

AlintaGas proposes that the following principles are Fixed Principles for a Fixed Period of 10 years:

- the structure of Reference Tariffs as specified in clauses 21, 22, 23 and 24 of the Access Arrangement;
- the method of calculation of the Total Revenue as described in clause 27 of the Access Arrangement;

- the method of forecasting new facilities investment under clause 29 of the Access Arrangement;
- the financing structure that has been assumed for the purposes of determining the rate of return in accordance with section 8.30 of the Code;
- the Depreciation Schedule, referred to in clause 31 of the Access Arrangement;
- the allocation of revenue between services as described in clause 33 of the Access Arrangement; and
- the "price path" form of regulation as described in clause 35 of the Access Arrangement.

The Fixed Principles proposed by AlintaGas are generally consistent with the nature of Structural Elements allowed as Fixed Principles by section 8.48 of the Code. However, for two of the proposed fixed principles – the Depreciation Schedule and the allocation of revenue between services – it is not clear whether the proposed Fixed Principle comprises a principle or a methodology within the meaning indicated in the definition of a structural element in section 10.8 of the Code. This needs to be clarified.

The following amendment is required before the Access Arrangement will be approved.

Amendment 46
Clauses 38(1)(e) and 38(1)(f) of the Access Arrangement should be amended to indicate whether the Fixed Principles of the Depreciation Schedule and the allocation of revenue between services comprise principles or methodologies within the meaning indicated in the definition of a structural element in section 10.8 of the Code.

The Regulator acknowledges that it may be desirable for certain underlying parameters of the Reference Tariffs to be exempt from variation by regulatory decisions over an extended period as this may reduce financing costs and so reduce long-term charges to customers. However, there are risks to locking in aspects of the regulatory regime where there is currently little regulatory experience and both the gas industry and market are subject to substantial change within the foreseeable future. In particular, the effects of the current regulatory regime on competition in gas markets are uncertain. In view of these uncertainties, a Fixed Period in excess of the Access Arrangement Period is considered to be potentially contrary to the interests of Users and Prospective Users.

The following amendment is required before the Access Arrangement will be approved.

Amendment 47
Clause 38(2) of the Access Arrangement should be amended to provide for a Fixed Period of no greater than five years starting on the Commencement Date.

PART B

SUPPORTING INFORMATION

CONTENTS

GLOSSARY

Terms used in the draft decision have the meanings ascribed to them under the *Gas Pipelines Access Act 1997* or the Access Arrangement for the Mid-West and South-West Gas Distribution Systems. Readers should refer to these documents for definitions of specific terms. In order to assist understanding, summary definitions of several terms used widely in this Draft Decision are provided below.

Access Arrangement	A statement of policies and the basic terms and conditions that apply to third party access to a covered pipeline.
Access Arrangement Information	Additional and/or supplemental information pertaining to the Access Arrangement.
Access Request	A request for access to a Service made in accordance with the Access Arrangement.
Applications Procedure	A Prospective User wishing to obtain access to a service must submit an application in accordance with the AlintaGas Applications Procedure, as specified in clause 17 of the Access Arrangement.
Arbitrator	The Office of the Western Australian Gas Disputes Arbitrator established under section 62 of the *Gas Pipelines Access (WA) Act 1998*.
Bare Transfers	A transfer by a User of all or part of its contracted capacity on a pipeline not requiring the consent of the Service Provider and as it does not involve a change in the contractual arrangements between the User and the Service Provider.
Capacity	The potential of a pipeline, as currently configured and operated in a prudent manner consistent with good pipeline industry practice, to deliver a particular Service between a Receipt Point and a Delivery Point at a point in time.
Capacity Management Policy	A policy that is required to be in the Access Arrangement indicating whether the Covered Pipeline is to be administered as a Contract Carriage Pipeline or a Market Carriage Pipeline.
Capital Base	Has the meaning given to "Capital Base" in section 8.4 of the Code.
Capital Expenditure	Expenditure on a Covered Pipeline and associated regulated assets to be incorporated into the Capital Base of the pipeline.
Code	The *National Third Party Access Code for Natural Gas Pipeline Systems*.

Consent Transfers	A transfer by a User of all or part of its contracted capacity on a pipeline where the transfer is subject to the consent of the Service Provider.
Contract Carriage	A system of managing third party access whereby the Service Provider normally manages its ability to provide Services primarily by requiring Users to use no more than the quantity of service specified in a contract (defined in detail in the Code).
Contracted Capacity	The nominal quantity of gas transportation to be undertaken under a service agreement between a User and the Service Provider.
Contracted Peak Rate	Contracted Peak Rate in respect of a User entitled to take delivery of gas at a delivery point means the rate specified in the user's Haulage Contract as the highest instantaneous flow rate through the delivery point at which AlintaGas can be required to deliver gas.
Covered Pipeline	The whole or particular part of a pipeline which is regulated under the Code.
Curtailment	AlintaGas may curtail the delivery of a quantity of gas to a user where supply from an interconnected pipeline has been curtailed.
Delivery Point	A point of a pipeline at which the custody of gas is transferred from a Service Provider to a User.
Depreciated Actual Cost	The value that would result from taking the actual capital cost of the Covered Pipeline and subtracting the accumulated depreciation for those assets charged to Users (or thought to have been charged to Users) prior to the commencement of the Code.
Depreciated Optimised Replacement Cost	Is the depreciated minimum cost of replacing or replicating the service potential embodied in a pipeline with modern equipment and in the most efficient way practicable, from an engineering perspective, given the service requirements, the age and condition of the existing assets and replacement in the normal course of business.
Depreciation Schedule	The Depreciation Schedule is the set of depreciation schedules that is the basis upon which the assets that form part of the Capital Base are to be depreciated for the purposes of determining a Reference Tariff.
Designated Supplier	The supplier who has been notified to AlintaGas by a user for a specified quantity of gas.
Extensions/ Expansions Policy	A policy that is required to be in the Access Arrangement setting out a method for determining whether extension or expansion to the Covered Pipeline is or is not to be treated as part of the Covered Pipeline for the purposes of the Code.
Fixed Period	The period during which a Fixed Principle may not be changed.

Fixed Principle	An element of the Reference Tariff Policy that can not be changed without the agreement of the Service Provider.
Haulage Contract	An agreement entered into between a Pipeline Service Provider and a User under which the Pipeline Service Provider agrees to provide a Reference Service on terms and conditions as set out in an Access Arrangement.
High Pressure System	The system of pipelines owned and operated by AlintaGas operating at a nominal pressure of 300 kPa or more.
Incentive Mechanism	Incentive Mechanism has the meaning given to "Incentive Mechanism" in sections 8.44 and 10.8 of the Code.
Initial Capital Base	Initial Capital Base means the Capital Base at the commencement of the Access Arrangement period.
Interconnection Service	A service in respect of the interconnection between a sub-network and a pipeline which is, or is not to become, an interconnected pipeline.
Interconnected Pipeline	A transmission pipeline, distribution pipeline or gas storage system from which gas is supplied to AlintaGas.
Listed Ancillary Service	Refers to any one of a Disconnection Service, A Reconnection Service, an Additional Meter Reading Service, or an Additional Meter Testing Service.
Market Carriage System	A system of managing third party access whereby the Service Provider does not normally manage its ability to provide Services primarily by requiring Users to use no more than the quantity of Service specified in a contract (defined in more detail in the Code).
Market Variable Element	A factor that has a value assumed in the calculation of a Reference Tariff, where the value of that factor will vary with changing market conditions during the Access Arrangement Period or in future Access Arrangement Periods, and includes the sales or forecast sales of Services, any index used to estimate the general price level, real interest rates, Non-Capital Cost and any costs in the nature of Capital Costs.
Medium Pressure/ Low Pressure System	The system of pipelines owned and operated by AlintaGas operating at a nominal pressure of less than 300 kPa.
National Gas Pipelines Access Agreement	A national agreement to introduce a national gas pipelines access regime endorsed by CoAG and signed by all Australian Heads of State on 7 November 1997.
New Facilities Investment	An increase in the Capital Base of the pipeline after the commencement of a new Access Arrangement Period to reflect additional capital costs incurred in modifying or adding to existing assets for the purpose of providing services.

Non-Capital Costs	Non-Capital Costs has the meaning given to "Non-Capital Costs" in section 8.4 of the Code, which at the date of the publication of this decision was: "...the operating, maintenance and other non-capital costs incurred in providing all Services provided by the Covered Pipeline".
Non-Reference Service	A service other than a Reference Service.
Operating Expenditure	The non-capital costs incurred by a service provider in operating, maintaining and delivering services.
Optimised Deprival Value	A valuation of an asset based on the cost that would be incurred by the owner of the asset if deprived of the asset. This may be calculated in several ways. For the purposes of this Draft Decision, the Optimised Deprival Value is defined as the lesser of the depreciated cost of an asset and the valuation of the asset in terms of the expected net value of financial returns to the asset (on a cash flow basis).
Optimised Replacement Cost	Is the minimum cost of replacing or replicating the service potential of an asset with modern equipment in the most efficient way practicable, from an engineering perspective, given specified service requirements.
Prospective User	A person who seeks or who is reasonably likely to seek to enter into a Service Agreement with a Service Provider and includes a User who seeks or may seek to enter into a Service Agreement for an additional Service.
Queuing Policy	A policy that is required to be included in an Access Arrangement which defines the priority that a Prospective User has over another Prospective User to negotiate for specific Capacity.
Rate of Return	Rate of Return has the meaning given to "Rate of Return" in section 8.4 of the Code, which at the date of the publication of this decision was: "...a return (*Rate of Return*) on the value of the capital assets that form the Covered Pipeline (*Capital Base*)."
Receipt Point	A point of a pipeline at which the custody of gas is transferred to the Service Provider.
Reference Service	A Service that is specified as a Reference Service in an Access Arrangement.
Reference Tariff	A tariff specified in an Access Arrangement as corresponding to a Reference Service.
Regulator	The Independent Gas Pipelines Access Regulator in Western Australia established under section 27 of the *Gas Pipelines Access (WA) Act 1998*.

Residual Value	The value of the Capital Base at the end of the Access Arrangement Period after allowing for Capital Expenditure, Redundant Capital and Depreciation during the Period.
Revisions Commencement Date	A date upon which the next revisions to the Access Arrangement are intended to commence.
Revisions Submissions Date	A date upon which the Service Provider must submit revisions to the Access Arrangement.
Ring Fencing	A requirement on a Service Provider to establish arrangements to segregate or "ring fence" its business of providing Services using a covered pipeline from other business activities.
Scheme Participant	Scheme Participant means the State of Western Australia as defined in section 11 of the Gas Pipelines Access (Western Australia) Act 1998.
Service	A Reference Service or Non-Reference Service relating to the transportation of gas by a Service Provider, and in the case of a Service Agreement means the particular Reference Service or Non-Reference Service the subject of that Service Agreement.
Service Agreement	An agreement between a Service Provider and a User for the provision of a Service.
Services Policy	An Access Arrangement must include a policy on the Services to be offered, including a description of one or more Services. A Services Policy commits AlintaGas to making available Reference Services to Prospective Users, and for the provision of Non-Reference Services to Prospective Users.
Service Provider	In relation to a pipeline or proposed pipeline, means the person who is, or who is to be, the owner or operator of the whole or any part of the pipeline or proposed pipeline.
Standard Delivery Facilities	The standard delivery facility or facilities specified by AlintaGas, including a pressure regulator, sized to suit the applicable meter, and any ancillary pipes and equipment.
Structural Element	Any principle or methodology that is used in the calculation of a Reference Tariff where that principle or methodology is not a Market Variable Element and has been structured for Reference Tariff making purposes over a longer period than a single Access Arrangement Period.
Total Revenue	Total Revenue has the meaning given in section 8.2 of the Code, which says it is the revenue to be generated from the sales (or forecast sales) of all Services over the Access Arrangement period.

Trading Policy	A policy that is required to be in the Access Arrangement for a Contract Carriage Pipeline, as required by section 3.9 of the Code, regarding trading capacity and the rights of a User to trade its rights to obtain a Service to another person.
User	A person who has a current Service Agreement or an entitlement to a Service as a result of arbitration under Section 6 of the Code.
User Specific Delivery Facilities	The facility or facilities which are the most appropriate for a particular user as determined by AlintaGas, including a user specific pressure regulator, any ancillary pipes and equipment, and a service pipe from the main to the delivery point.

ABBREVIATIONS

AA	Access Arrangement
AAI	Access Arrangement Information
ACCC	Australian Competition and Consumer Commission
CCA	Current Cost Accounting
CMS	CMS Gas Transmission of Australia Pty Ltd
CoAG	Council of Australian Governments
CPI	Consumer Price Index
DAC	Depreciated Actual Cost
DBNGP	Dampier to Bunbury Natural Gas Pipeline
DORC	Depreciated Optimised Replacement Cost
GJ	Gigajoules (10^9 joules)
GST	Goods and Services Tax
HP	High Pressure
IPART	Independent Pricing And Regulatory Tribunal (New South Wales)
IRR	Internal Rate of Return
kPa	Kilopascals
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MAOP	Maximum Allowable Operating Pressure
MDQ	Maximum Daily Quantity
NCC	National Consumer Council
NPV	Net Present Value
O*ff*GAR	Office of Gas Access Regulation
OOE	Office of Energy

ORG	Office of the Regulator General (Victoria)
PJ	Petajoules (10^{15} joules)
TLPG	Tempered Liquefied Petroleum Gas
TJ	Terajoules (10^{12} joules)
WACC	Weighted Average Cost of Capital

1 INTRODUCTION

This Part B of the Draft Decision provides background and supporting information to the Draft Decision which is outlined in Part A.

In preparing the Draft Decision, the Regulator assessed the Access Arrangement on the basis of three broad criteria:

i. whether the Access Arrangement meets the requirements of sections 3.1 to 3.20 of the Code that explicitly state the matters that must be addressed in an Access Arrangement;

ii. whether the proposed Reference Tariffs are consistent with the objectives of section 8 of the Code and were determined in accordance with the principles set out in section 8; and

iii. for matters included in the Access Arrangement but are outside the scope of requirements set out in sections 3 or 8 of the Code, whether the inclusion and substance of these matters are reasonable having regard to the interests of the Service Provider, Users and the general public as provided for in section 2.24 of the Code.

The supporting information set out in this part is generally organised such that matters relevant to assessment of the Access Arrangement are addressed in the same sequence as in the Code. There are, however, several areas of overlap and cross-reference between different parts of the Code that would cause adherence to this sequence resulting in excessive repetition. The supporting information is thus structured as follows.

- Background information on the regulatory framework within which an Access Arrangement is assessed.
- The process for assessment of an Access Arrangement, and in particular the Access Arrangement for the Mid-West and South-West Gas Distribution Systems.
- Assessment of matters addressed by the Access Arrangement other than those that relate to tariffs, fees and charges (non-tariff matters).
- Assessment of Reference Tariffs proposed by AlintaGas for the Mid-West and South-West Gas Distribution Systems.
- Assessment of fees and charges, other than Reference Tariffs, proposed by AlintaGas for the Mid-West and South-West Gas Distribution Systems.
- Responses to any additional matters that were raised in public submissions.

2 REGULATORY FRAMEWORK

2.1 STRUCTURE OF THE WESTERN AUSTRALIAN GAS INDUSTRY

This section provides some background information on the Western Australian gas industry and the AlintaGas network in particular, where appropriate. The structure of the Western Australian gas industry was discussed in some detail in the Regulator's Draft Decision for the Parmelia Pipeline, which was issued on Wednesday 27 October 1999. Those interested in this part are referred to this Draft Decision which is available for download from *Off*GAR's web page (www.offgar.wa.gov.au).

Gas Production

Western Australia and its immediate offshore areas possess significant resources of natural gas, holding more than three quarters of the identified natural gas reserves within Australia. Natural gas accounts for 39 percent of the State's identified energy resources and will last over 100 years at the current level of production. There are five sedimentary basins in this area with two of these basins – the Northern Perth Basin and the Carnarvon Basin – currently producing natural gas for sale.

Within these two basins, there are nine producing fields supplying natural gas to the domestic market. In 1997/98 a total of 758 PJ of natural gas was produced from the two major basins, with the majority originating from the Carnarvon Basin. The natural gas produced from these areas is either sold to the domestic market or exported in the form of liquefied natural gas (LNG).

Gas Pipeline Infrastructure

There are currently seven main onshore natural gas transmission and distribution pipeline systems in Western Australia, as follows.

i. The 1,399km long Dampier to Bunbury Natural Gas Pipeline (DBNGP), owned by Epic Energy which transports gas from the North West Shelf to residential, business and industrial customers in the Geraldton, Perth, Mandurah and Bunbury areas.

ii. The 1,380km long Goldfields Gas Pipeline, owned by Goldfields Gas Transmission, a private consortium comprising Southern Cross Pipelines and Duke Energy, which transports gas from the North West Shelf to the Northern and Eastern Goldfields.

iii. The 416km long Parmelia Pipeline, owned by CMS Gas Transmission of Australia, which transports gas from various fields in the Perth basin to a number of major industrial customers in the south west.

iv. The Tubridgi Pipeline System.

v. The Harriet Pipeline System.

vi. The Pilbara Energy Pipeline.

vii. The Mid-West and South-West Gas Distribution Systems.

Gas Consumption

The use of natural gas in Western Australia includes gas used as fuel for power generation, direct (final) use of gas as a fuel, the use of gas as feedstock, the use of gas at the field in the production of petroleum, pipeline use and LNG production. The use of natural gas in Western Australia has increased dramatically over the past 23 years – from 30 PJ in 1973/74 to more than 312 PJ in 1997/98. This trend is expected to be sustained with increased demand for natural gas driven primarily by resource processing and power generation. The majority of gas supplied to the local market comes from fields in the offshore Carnarvon basin. Natural Gas is also produced in the Perth Basin which is transported for use in the South-West of the State by the Parmelia Pipeline.

The AlintaGas Network

AlintaGas commenced operations as a separate Government-owned organisation on 1 January 1995, following division of the State Energy Commission of Western Australia (SECWA) into separate gas and electricity businesses. In addition to an extensive residential and business gas distribution network, AlintaGas originally also owned a transmission network of 1,949 km, which included the DBNGP. On the 25 March 1998 the DBNGP was sold to Epic Energy, leaving 315 km of laterals owned and operated by AlintaGas and 94km operated and maintained by AlintaGas on behalf of other owners in addition to its distribution systems comprising of 10,125 km of pipeline.

In 1997/98 this network supplied gas to almost 400,000 customers, of which 392,059 were residential, 7,263 were business and 259 were contract customers. AlintaGas's residential and business customer base, whilst concentrated within the Perth region, extends to the Geraldton, Bunbury and Albany areas.

The proposed Access Arrangement relates to the natural gas reticulation areas in the country regions of Geraldton, Eneabba, Harvey, Bunbury and Busselton and the Perth region.

2.2 NATIONAL GAS ACCESS REGIME

In February 1994, the Council of Australian Governments (CoAG) agreed to progress a number of reforms to promote free and fair trade in natural gas in Australia. These reforms included the development of a uniform national framework for the regulation of third-party access to natural gas transmission pipelines.

On 7 November 1997, CoAG endorsed a national regulatory regime for natural gas pipelines in Australia, including distribution pipelines. This occurred through the signing of the Gas Pipelines Access Agreement (the Agreement), which amongst other things records each jurisdiction's commitment in relation to implementing the national regime and maintaining the integrity of the Agreement.

As provided for under the Agreement, the legislation put in place in Western Australia has an essentially identical effect to the *Gas Pipelines Access (South Australia) Act 1997.*

2.3 LEGISLATION

In Western Australia the *Gas Pipelines Access (WA) Act 1998* has given effect to the *National Gas Pipelines Access Law* comprising the law itself (Schedule 1 of the Act) and the

National Gas Pipelines Access Code for Natural Gas Pipeline Systems (the Code), which is Schedule 2 of the Act.

Prior to the commencement of the *Western Australian Act*, third party access to pipelines within Western Australia was regulated by either the *Petroleum Pipelines Act 1969* or the *Petroleum (Submerged Lands) Act 1982* for transmission pipelines or by specific legislation for particular transmission and distribution pipeline systems.

For the DBNGP, third party access was regulated by the *Dampier to Bunbury Pipeline Act 1997* and the *Dampier to Bunbury Pipeline Regulations 1998*, and for the Goldfields Gas Pipeline third party access was regulated by the *Goldfields Gas Pipeline Agreement Act 1994*. Third party access to the AlintaGas distribution systems was regulated by the *Gas Corporation Act 1994* and the *Gas Distribution Regulations 1995*.

The existing access regimes for the DBNGP, the Goldfields Gas Pipeline and the AlintaGas distribution systems were deemed to comply with the Code until 31 December 1999.

2.4 THE WESTERN AUSTRALIAN ACCESS REGIME

The Access Regime established by the *Gas Pipelines Access (WA) Act 1998* comprises the following four elements.

i. The Act itself that gives effect to the *Gas Pipelines Access (WA) Law*.

ii. Schedule 1, that provides the legal framework for the operation of the Access Regime.

iii. Schedule 2, which is the Code and that contains the detailed access principles of the Access Regime.

iv. Schedule 3, that contains consequential amendments to certain Acts.

The Gas Pipelines Access (WA) Act 1998

The Western Australian Act contains the following provisions.

- Extension of the coverage of the Code to include liquefied petroleum gas (LPG) and tempered LPG (TLPG) (section 8).

- Application of the *Gas Pipelines Access Law* as a law in Western Australia (section 9).

- Provision for the making of regulations and the application of those regulations in Western Australia (sections 10, 12, 13, and 14). The regulations will have an essentially identical effect to the regulations established in South Australia (under sections 10, 11 & 12 of the *Gas Pipelines Access (South Australia) Act 1997*) and applied in each other State and Territory. They will deal with such things as the penalties to be imposed for breach of certain provisions of the Law and the Code along with defining the start of certain Covered transmission pipelines. Regulations are currently being drafted by the lead legislator (South Australia) and when they are finalised Western Australia will implement its regulations so they have an essentially identical effect to the South Australian regulations.

- Definition of the various bodies exercising functions under the Code in Western Australia (section 11).

- Conferral of functions and powers on the various Commonwealth and State Code bodies and the Federal Court (sections 15 to 21).

- Application of the Commonwealth *Administrative Decisions (Judicial Review) Act 1972* to certain decisions made under the Code (section 22).

- Exemption from State taxes from the transfer of assets or liabilities when complying with ring-fencing requirements of the Code. The Western Australian Act also contains a clarification that is not contained in the legislation of other jurisdictions that the Regulator may include tax liabilities when assessing the administrative costs of complying with ring-fencing obligations of the Code. This clarification does not alter the effect, scope or operation of the Code as Regulators in the other jurisdiction may still include any tax liability in their assessment of the administrative costs. In addition, the Western Australian Regulator has the discretion to ignore such costs if their inclusion would not be appropriate. It is now proposed that the Code be amended as it applies in each jurisdiction so that this clarification is clearly available to all interested parties across Australia (section 23).

- Establishment of the Western Australian Independent Gas Pipelines Access Regulator (the Regulator) who will act as the Regulator for the purposes of the Law and the Code for distribution and transmission pipelines in Western Australia. The effectiveness of the operation of the Regulator for transmission pipelines will be reviewed when a significant gas transmission pipeline crosses Western Australia's border or after the 7 November 2002 (whichever is the earlier) (sections 26 to 48).

  Features of the Regulator's role are as follows.

  – The Regulator is entirely independent of direction or control by the Crown or any Minister or officer of the Crown in exercising its functions under the Law, Code or Agreement.

  – The Regulator is appointed by the Governor for terms of 3 to 5 years and can only be removed from office by both Houses of Parliament. The Governor sets the remuneration and conditions of office and these cannot be varied so as to be less favourable to the Regulator.

  – The Minister sets the annual expenditure limit for the Regulator but otherwise the Regulator is free to expend the monies within that limit and subject to the prudent financial controls in the *Financial Administration and Audit Act 1985* (including the audit by the Auditor General). The Minister may issue directions to the Regulator on general policies to be followed in matters of administration and financial administration, but such directions cannot constrain the Regulator with respect the performance of any function conferred on it under the Access Regime or the Agreement. Such Directions are to be tabled in both Houses of Parliament, and must be Gazetted and a copy provided to the Code Registrar.

  – Where the Regulator, in assessing a proposed Access Arrangement, is required by the Code to take the public interest into account the Regulator is required to, amongst

other things, take into account the fixing of appropriate charges as a means of extending effective competition in the supply of natural gas to residential and small business customers.

– The Regulator is required to notify the Minister of any conflict of interest with his/her duties. Money for the Regulator's functions is appropriated by Parliament or collected by fees established by Regulations under section 87.

- Establishment of the Western Australian Gas Review Board to act as the appeals body for certain purposes under the Law and the Code. The Gas Review Board consists of a presiding member to be chosen from a panel of legal practitioners by the Attorney–General, and two experts chosen from a panel of experts by the presiding member (sections 49 to 60).

- Establishment of the Western Australian Gas Disputes Arbitrator for the purposes of the Law and the Code and of hearing of disputes under the *Gas Referee Regulations 1995* (sections 61 to 85).

  Features of the Gas Disputes Arbitrator's role are as follows.

  – The Arbitrator is entirely independent of direction or control by the Crown or any Minister or officer of the Crown.

  – The Arbitrator is appointed by the Governor for terms of 3 to 5 years and can only be removed from office by both Houses of Parliament. The Governor sets the remuneration and conditions of office and these can not be varied so as to be less favourable to the Arbitrator.

  – The Minister may issue directions to the Arbitrator on general policies to be followed in matters of administration and financial administration, but such directions cannot constrain the Arbitrator with respect to the performance of any function conferred on it under the Access Regime or the Agreement, or other access regimes such as the transitional Dampier to Natural Gas Pipeline regime. Such Directions are to be tabled in both Houses of Parliament, and must be Gazetted and copies provided to any person on request.

- Making of regulations including the setting of fees and charges for the Regulator, the Board and the Arbitrator (section 87).

- Transitional provisions (sections 89 to 97).

Schedule 1 of the Gas Pipelines Access (WA) Act 1998

Schedule 1 of the Act contains the provisions necessary to give the Code legal effect including provisions, as follows.

- Definition of the Code and providing for its amendment (sections 5 and 6 of Schedule 1, when read in conjunction with the definition of scheme participants in section 3 and other definitions in section 2).

- Establishment of a procedure for classifying pipelines as transmission or distribution pipelines and for determining which jurisdiction a cross-border distribution pipeline is

most closely connected with (sections 9 to 11). This is done for the purposes of defining whose Code bodies will have jurisdiction under the Code.

- Prohibition of certain persons preventing or hindering access to Code pipelines (section 13).

- Establishment of procedures for arbitrating access disputes under the Code (sections 14 to 31).

- Provision for legal proceedings to be brought to the Supreme Court in relation to breaches of certain provisions of the Law and the Code (sections 32 to 37).

- Establishment of a right of administrative review of certain decisions made under the Code (sections 38 to 39).

- Placing of an obligation on producers of natural gas who offer to supply delivered gas to also offer to supply gas at the exit flange of the producer's processing plant (section 40).

- General provisions relating to the Regulator's ability to obtain information and documents (sections 41 to 43).

The Law is applied as a law in Western Australia by the *Gas Pipelines Access (WA) Act*, as well as in each other state and territory by their respective Acts.

Schedule 2 of the Gas Pipelines Access (WA) Act 1998

Schedule 2 of the Act comprises the Code. This is identical to the access code appearing in Annex D to the Agreement and in Schedule 2 to the South Australian Act and the respective Acts of other states and territories. The Code is applied as a law in Western Australia and establishes, amongst other things, the following.

- A mechanism by which natural gas pipelines become subject to the Code (called "Covered Pipelines" or "Code Pipelines") (section 1). Schedule A to the Code lists the pipelines that were initially covered by the Code in Western Australia.

- A requirement that the service provider (i.e. owner/operator) of a Covered Pipeline establish with the relevant Regulator an up-front Access Arrangement setting out the terms on which access will be given to certain services provided by the Covered Pipeline, including the Reference Tariffs for such services (section 2). The content of an Access Arrangement (section 3) and the principles, which must be applied in setting the Reference Tariffs (section 8), are also specified.

- A right to arbitration where a service provider of a Covered Pipeline and a Prospective User cannot agree on the terms of access to a service. The arbitrator is obliged in any such arbitration to apply the terms of the Access Arrangement established with the relevant Regulator (section 6).

- Obligations on service providers of Covered Pipelines to ring fence their operations (section 4).

- Obligations on service providers and users to disclose information (section 5).

- A requirement that the service provider of a Covered Pipeline not enter into contracts with associates without first obtaining the approval of the relevant Regulator (section 7).

3 ASSESSMENT PROCESS

3.1 OVERVIEW

Where a pipeline is covered by the Code there is a requirement for a pipeline Service Provider to establish an Access Arrangement. The Regulator may approve an Access Arrangement only if it satisfies the minimum requirements set out in section 3 of the Code. The Regulator must not refuse to approve an Access Arrangement solely for the reason that the proposed Access Arrangement does not address a matter that section 3 does not require an Access Arrangement to address. Subject to this limitation, the Regulator has a broad discretion to refuse to accept an Access Arrangement.

An Access Arrangement submitted to the Regulator for approval must be accompanied by specified Access Arrangement Information, which should enable Users and Prospective Users to understand the derivation of the elements of the proposed Access Arrangement and form an opinion as to the compliance of the Access Arrangement with the Code.

The process by which an Access Arrangement is assessed and approved can be summarised as follows.

- The Service Provider submits a proposed Access Arrangement, together with the Access Arrangement Information, to the Regulator.
- The Regulator may require the Service Provider to amend and resubmit the Access Arrangement Information.
- The Regulator publishes a public notice and seeks submissions on the application.
- The Regulator considers the submissions, issues a Draft Decision and then, after considering any submissions received on the draft, makes a Final Decision which either:
  - approves the proposed Access Arrangement; or
  - does not approve the proposed Access Arrangement and states the revisions to the Access Arrangement which would be required before the Regulator would approve it; or approves a revised Access Arrangement submitted by the Service Provider which incorporates amendments specified by the Regulator in its Draft Decision.
- If the Regulator does not approve the Access Arrangement, the Service Provider may propose an amended Access Arrangement, which incorporates the revisions required by the Relevant Regulator.
- If the Regulator does not approve the Access Arrangement and the Service Provider does not propose an amended Access Arrangement, the Relevant Regulator can impose an Access Arrangement.

The *Gas Pipeline Access (WA) Law* provides a mechanism for the review of a decision by the Regulator to impose an Access Arrangement.

The particular components of the assessment process for the Access Arrangement submitted for the Mid-West and South-West Gas Distribution Systems are described below.

3.2 SUBMISSION OF THE ACCESS ARRANGEMENT AND SUPPORTING INFORMATION

Documentation submitted to the Regulator by AlintaGas was as follows.

- AlintaGas's Access Arrangement for the Mid-West and South-West Gas Distribution Systems (AlintaGas, 30 June 1999).
- AlintaGas's Access Arrangement Information for the Mid-West and South-West Gas Distribution Systems (AlintaGas, 30 June 1999).

3.3 PUBLIC CONSULTATION

*Off*GAR undertook the following actions to provide public notification of receipt of the Access Arrangement and invite submissions from interested parties.

- Forwarding of notices to approximately 240 interested parties on 2 July 1999.
- Placing of the notice calling for submissions on the *Off*GAR web site.
- Placing of advertisements calling for public submissions in *The West Australian* and the *Australian* on 7 July 1999.

An issues paper was prepared by *Off*GAR and a notice was sent to interested parties. The issues paper was also available from the *Off*GAR office and the *Off*GAR web site. A closing date for receipt of public submissions was set at 4pm 5 August 1999. Two extensions to this closing date were subsequently made through notices distributed to interested parties and placed on the *Off*GAR web site, with extensions made to 4pm, 19 August 1999 and to 4pm, 2 September 1999.

Documentation on the proposed Access Arrangement was made available from the *Off*GAR office and on the *Off*GAR web site.

The following public submissions were received.

- Apache Energy Ltd (2 September 1999).
- Australian Energy Advisors (5 August 1999).
- Chamber of Commerce and Industry (19 August 1999).
- Chamber of Minerals and Energy, Submission No 1 (19 August 1999).
- Chamber of Minerals and Energy, Submission No 2 (2 September 1999).
- CMS Gas Transmission of Australia, Submission No 1 (23 July 1999).
- CMS Gas Transmission of Australia, Submission No 2 (17 August 1999).
- CMS Gas Transmission of Australia, Submission No 3 (2 September 1999).

- Combustion Air Pty Ltd (23 July 1999).
- North West Shelf Gas (19 August 1999).
- Office of Energy (5 August 1999).
- Western Power (5 August 1999).

These submissions have been made publicly available via the *Off*GAR web site. The contents of submissions as they relate to particular aspects of the Access Arrangement are summarised and addressed in Chapters 4 and 5 of this Draft Decision.

3.4 DRAFT DECISION

This document comprises the Regulator's Draft Decision in respect of the Access Arrangement submitted by AlintaGas. The Draft Decision is a result of an assessment by the Regulator of compliance of the Access Arrangement with requirements of the Code. The Draft Decision states the amendments (or the nature of amendments) that are required to be made to the Access Arrangement before the Regulator will approve it.

The Draft Decision provides an opportunity for a Service Provider to make amendments to its Access Arrangement deemed necessary by the Regulator prior to a Final Decision on acceptance or rejection of the Access Arrangement. Publication of the Draft Decision also provides an opportunity for public comment on the Regulator's assessment of the Access Arrangement.

3.5 SECOND-ROUND PUBLIC CONSULTATION

Public submissions are invited on the Draft Decision. In accordance with the requirements of Section 2.14 of the Code, a copy of this document has been provided to all persons that made a submission as part of the first round of public consultation. Copies of the document are available in hard-copy form from *Off*GAR and the document is also available for downloading from the *Off*GAR web site. The closing date for receipt of submissions on the Draft Decision is 5 May 2000.

3.6 FINAL DECISION

In accordance with section 2.16 of the Code, the Regulator will, after consideration of submissions on the Draft Decision, issue a Final Decision which:

(a) approves the Access Arrangement; or

(b) does not approve the Access Arrangement and states the amendments (or nature of the amendments) which would have to be made to the Access Arrangement in order for the Regulator to approve it and the date by which a revised Access Arrangement must be resubmitted by the Service Provider; or

(c) approves a revised Access Arrangement submitted by the Service Provider which the Relevant Regulator is satisfied incorporates the amendments specified by the Regulator in this Draft Decision.

The Regulator shall issue a Final Decision by 30 April 2000, unless the Regulator extends the period for issue of a Final Decision under provisions of section 2.22 of the Code.

In accordance with requirements of section 2.17 of the Code, a copy of the Regulator's Final Decision will be provided to all persons that made a submission in respect of the Access Arrangement or Draft Decision, and copies will be made publicly available in hard-copy form and via *Off*GAR's web site.

3.7 ADDITIONAL AMENDMENTS TO THE ACCESS ARRANGEMENT

If the Regulator does not approve the Access Arrangement and the Service Provider submits a revised Access Arrangement by the date specified by the Regulator under section 2.16(b) of the Code, which the Regulator is satisfied incorporates the amendments specified by the Relevant Regulator in its final decision, the Regulator will issue a Final Decision that approves the revised Access Arrangement.

If the Regulator does not approve the Access Arrangement and the Service Provider does not submit a revised Access Arrangement by the date specified by the Regulator under section 2.16(b) of the Code or submits a revised Access Arrangement which the Regulator is not satisfied incorporates the amendments specified by the Regulator in its final decision, the Regulator may draft and approve its own Access Arrangement. This would be undertaken in accordance with requirements for public consultation specified in Section 2.23 of the Code.

4 CONTENT OF THE ACCESS ARRANGEMENT

4.1 INTRODUCTION

An Access Arrangement must, as a minimum, include the elements described in section 3 of the Code. Section 3 establishes the following requirements.

- Services Policy (sections 3.1 and 3.2).

  An Access Arrangement must include a policy on the Services to be offered. The Services Policy must:

  - include a description of one or more Services which are to be offered;
  - where reasonable and practical, allow Prospective Users to obtain a Service that includes only those elements that the User wishes to be included in the Service; and
  - where reasonable and practical, allow Prospective Users to obtain a separate tariff in regard to a separate element of a Service.

- Reference Tariff (sections 3.3 to 3.5).

  An Access Arrangement must contain one or more Reference Tariffs. A Reference Tariff operates as a benchmark tariff for a specific Service, in effect giving the User a right of access to the specific Service at the Reference Tariff, and giving the Service Provider the right to levy the Reference Tariff for that Service.

- Terms and Conditions (section 3.6).

  An Access Arrangement must include the terms and conditions on which the Service Provider will supply each Reference Service.

- Capacity Management Policy (sections 3.7 and 3.8).

  An Access Arrangement must state whether the covered pipeline is a Contract Carriage Pipeline or a Market Carriage Pipeline.

- Trading Policy (sections 3.9 to 3.11).

  An Access Arrangement for a Contract Carriage Pipeline must include a policy on the trading of capacity.

- Queuing Policy (sections 3.12 to 3.15).

  An Access Arrangement must include a policy for defining the priority that Prospective Users have to negotiate for specific Capacity (a Queuing Policy).

- Extensions/Expansions Policy (section 3.16).

  An Access Arrangement must include a policy setting out a method for determining whether an extension or expansion to the covered pipeline/distribution system is or is not to be treated as part of the covered pipeline for the purposes of the Code.

- Review Date (sections 3.17 to 3.20).

  An Access Arrangement must include a date on or by which revisions to the Access Arrangement must be submitted and a date on which the revised Access Arrangement is intended to commence.

With the exception of the requirements for Reference Tariffs, the compliance of the Access Arrangement with the above requirements of the Code is addressed below. Reference Tariffs are addressed separately in section 5 of this report.

4.2 SERVICES POLICY

4.2.1 Access Code Requirements

Section 3.1 of the Code requires that an Access Arrangement include a policy on the Service or Services to be offered (a Services Policy). Section 3.2 of the Code requires that the Services Policy comply with the following principles.

(a) The Access Arrangement must include a description of one or more Services that the Service Provider will make available to Users or Prospective Users, including:

  (i) one or more Services that are likely to be sought by a significant part of the market; and

  (ii) any Service or Services which in the Relevant Regulator's opinion should be included in the Services Policy.

(b) To the extent practicable and reasonable, a User or Prospective User must be able to obtain a Service that includes only those elements that the User or Prospective User wishes to be included in the Service.

(c) To the extent practicable and reasonable, a Service Provider must provide a separate Tariff for an element of a Service if this is requested by a User or Prospective User.

4.2.2 Access Arrangement Proposal

A Services Policy is provided in Division 1 of Chapter 2 of the Access Arrangement, which commits AlintaGas to making available Reference Services to Prospective Users, and negotiating in good faith for the provision of Non-Reference Services to Prospective Users.

Four types of Reference Services are specified in Division 1 of Chapter 2 and described in Schedules 4, 5 and 6 of the Access Arrangement. The principal features of the Reference Services are as follows.

- Reference Service A: delivery of gas to a delivery point on the high pressure system or medium/low pressure system, with an anticipated delivery of 35 TJ or more of gas each year with a contracted peak rate of 10 GJ or more per hour, and a contract duration of between two and five years.

- Reference Service B1: delivery of gas to a delivery point on the high pressure system or medium/low pressure system, with an anticipated delivery of less than 35 TJ of gas each year or a contracted peak rate of less than 10 GJ per hour, a contract duration of between two and five years, and a requirement of the User for user specific delivery facilities.

- Reference Service B2: delivery of gas to a delivery point on the medium/low pressure system, using standard delivery facilities with a standard 12 m^3/hr meter, and a contract duration of one year.

- Reference Service B3: delivery of gas to a delivery point on the medium/low pressure system, using standard delivery facilities with a standard 6 m^3/hr meter, and a contract duration of one year.

A Haulage Contract for any Reference Service will specify one or more receipt points (where the User will receive gas into the AlintaGas network) and one or more delivery points (the point(s) on the AlintaGas network to which the gas will be transported).

Three types of Non-Reference Services are specified in Divisions 2, 3 and 4 of Chapter 2, respectively.

- Interconnection Service. The terms and conditions and prices upon which an Interconnection Service will be made available are to be negotiated by AlintaGas and the person to whom that service is provided.

- Elements of a Service. A Prospective User will be able to obtain an element of a Reference Service offered by AlintaGas under the Services Policy to the extent that it is practicable and reasonable to provide one.

- Listed Ancillary Services. Listed ancillary services will be offered to users of Reference Service B2 or B3 under standard terms and conditions and at a set tariff, whereas users of Reference Service A or B1 will negotiate with AlintaGas regarding the terms and conditions and prices of Ancillary Services.

4.2.3 Submissions from Interested Parties

Eligibility for Reference Services A and B1

- CMS Submission No 3

  Some Users designated to receive Reference Service B1 would appear to be financially penalised compared to their charges under Reference Service A. On the basis of this analysis, the consumption parameters dividing Reference Service A and Reference Service B1 might be changed.

- Office of Energy

  The Regulator should also consider whether the threshold for Reference Service A of 35TJ per year (delivery) and 10 GJ/hour (peak rate) is appropriate with reference to the benefits and costs of this threshold.

Section 3.2 of the Code sets out the principles required to be met by a Services Policy. The only criterion required to be satisfied in respect of the definition of Reference Services is that the services that are likely to be sought by a significant part of the market. The Reference Services described in the Access Arrangement appear both individually and collectively to be consistent with this requirement. Notwithstanding this, the Regulator was concerned that eligibility of Prospective Users to obtain Reference Services A and B1 is restricted according to the expected quantity of gas to be delivered to the Prospective User and the expected peak rate of delivery. These constraints on eligibility to obtain services in combination with the different tariff structures for Reference Services A and B1 may result in Users with only small differences is the quantity or peak rate of gas delivery facing substantial differences in gas distribution charges. The Regulator has addressed this matter in an assessment of the tariff structures for Reference Services A and B1, as described in section 0 of this Draft Decision. The outcome of this assessment is that the Regulator will require that the Reference Tariffs for Reference Service A and/or Reference Service B1 be altered to provide for a seamless transition in tariffs between the two services.

Technical and Service Requirements

- Combustion Air Pty Ltd

  Although the base elements of service and technical requirements are scattered throughout the documents, a consolidated definitive set of requirements are not. Interested parties are, therefore, unable to understand the services offered under the Access Arrangement.

Combustion Air Pty Ltd is concerned that the Access Arrangement and Access Arrangement Information does not contain a consolidated and definitive set of service and technical requirements to enable interested parties to understand the services offered by AlintaGas.

The specification of service quality requirements is particularly important as AlintaGas has elected to be a Contract Carriage Pipeline (see Section 4.4 of this Draft Decision) and Users are required to enter into a contract for a specified period of time. It is important for Users who enter into contracts to have a clear understanding of the minimum level of service to be provided. The specification of minimum service quality is important in a regulated monopoly environment, since there are no competitive pressures to maintain service quality standards.

The Final Decision on the Access Arrangement for Multinet, Westar & Stratus in Victoria considered in some detail the requirement for a more detailed specification of service quality. The ORG considered that an adequate specification of the service definition, and in particular the level of reliability that is expected, is necessary for reasons including:

i. to eliminate the incentive for a Service Provider to reduce the quality of supply and so increase profits in circumstances where the regulatory regime involves a price-cap; and

ii. it is in the interests of Users and Prospective Users for the service standard to be specified so as to give them certainty as to the standard and the ability to adjust their own operations, if necessary.

It was noted in the ORG decision that, under a Contract Carriage regime, the Service Provider normally would promise to deliver a certain quantity of gas, and face the legal consequences for failure to deliver and this should adequately provide for quality of service. However, this may not necessarily be the case, and the ORG identified a number of

circumstances where a system based on contracts may not, of itself, provide for adequate regulation of quality.[1]

Therefore, even in a Contract Carriage system, the totality of the terms and conditions in the Access Arrangement, together with the effect of other regulatory mechanisms in place (such as safety regulation), would have to be assessed on a case by case basis to ascertain whether there was adequate quality regulation in place.

The Regulator sought advice from the Director of Energy Safety on whether the technical and service specifications presented in the Access Arrangement were adequate. It was generally considered that the Access Arrangement lacked certain information, which Users and Prospective Users would require in order to fully understand the technical and service specifications of the services offered by AlintaGas. The advice recommended that the Access Arrangement should reference the appropriate standards and codes that AlintaGas will utilise for the design, construction, operation and maintenance of their facilities.

The Regulator has considered both the advice from the Director of Energy Safety and the Final Decision on the Multinet Access Arrangement in making his decision. The Regulator contends that the proposed Access Arrangement does not adequately specify the technical and service standards that Users of Reference and Non-Reference Services can expect, which prevents Users and Prospective Users from being able to fully understand the services offered. The Regulator considers that it would be appropriate for the Access Arrangement to reference (for information purposes) the standards and codes that will apply to the services specified in the Services Policy offered by AlintaGas. This is intended to avoid the prospect of the Access Arrangement needing to be reviewed if the standards and codes are amended during the Access Arrangement Period. It is also recognises that the duty placed on AlintaGas to meet the appropriate service and technical standards remains a legislative requirement rather than a contractual requirement.

The following amendment is required before the Access Arrangement will be approved.

Amendment 1 The Access Arrangement should be amended to reference (for information purposes only) the standards and codes that will apply to the services specified in the Services Policy offered by AlintaGas.

Duration of Reference Services

- Western Power

  The only potential constraints with regard to the Reference Services relate to the fixed durations proposed for the Haulage Contracts (1 year for B2 and B3 and a minimum of 2 years for A and B1). These would preclude B2 and B3 users seeking a longer contract for example.

The Access Arrangement offers Reference Service A and B1 on the basis of a contract duration of between 2 and 5 years,[2] and Reference Service B2 and B3 on the basis of a one

[1] Office of the Regulator-General, Access Arrangement for Multinet, Westar & Stratus, Final Decision (October 1998).

year fixed contract.[3] Western Power is concerned that the Access Arrangement, by fixing the duration of Reference Service B2 and B3 to one year, will preclude Users from securing longer-term contracts.

The duration of contracts influences the distribution of commercial risk between the Service Provider and the User. A Service Provider will typically seek a length of contract that balances (i) certainty of receiving a return on any specific investment made to fulfil a contract with a User, with (ii) a commercial risk that there will be unexpected increases in costs for provision of the Service over the term of the contract. The User will seek a length of contract that balances (i) certainty of provision of the Service, with (ii) a commercial risk that their requirement for the Service will decrease over the term of the contract.

The duration of Reference Service A and B1 enables a Prospective User to select a contract duration that balances certainty of provision with commercial risk over the medium term, without precluding the Prospective User from obtaining the service as a Reference Service. A Prospective User of Reference Service B2 and B3, however, would not have the same degree of flexibility in selecting contract duration if the Prospective User wished to obtain the service as a Reference Service. Indeed, the more restrictive the contract duration upon which a Reference Service is offered, the greater the likelihood that a Prospective User will have to negotiate a service agreement with the Service Provider.

The Regulator has considered the duration of comparable Reference Services offered in the Access Arrangements for distribution networks submitted in other States. The Access Arrangements submitted in Victoria have adopted a Market Carriage System, which does not require contractual information, such as contract duration, to be specified. The Access Arrangements submitted for consideration in New South Wales and South Australia, however, are based on a Contract Carriage System. The contract duration, upon which Reference Services are offered in the respective Access Arrangements, is presented in the table below.

Contract Durations for Reference Services on Distribution Networks

Access Arrangement	Reference Service	Contract Duration
Great Southern Energy (NSW)	Transportation Service	Between 1 and 5 years
AGL Gas Networks (NSW)	Capacity Reservation Service	Between 1 and 2 years
AGL Gas Networks (NSW)	Managed Capacity Service	1 year only
AGL Gas Networks (NSW)	Throughput Service	1 year or more
AGL Gas Networks (NSW)	Multiple Delivery Point Service	Unlimited duration

As contract duration for other distribution networks is generally not limited to one year, the Regulator considers that the one-year fixed contract duration for Reference Service B2 and

[2] Clause 1 of Schedule 4 and Schedule 5, AlintaGas Access Arrangement.

[3] Clause 1 of Schedule 6, AlintaGas Access Arrangement.

Reference Service B3 offered in the AlintaGas Access Arrangement appears unreasonably restrictive. In the absence of any justification to the contrary, the contract duration for Reference Service B2 and B3 would be better specified as one year or more.

The following amendment is required before the Access Arrangement will be approved.

> Amendment 2
>
> Clause 1 of Schedule 6 of the Access Arrangement should be amended so that a Haulage Contract for Reference Service B2 or Reference Service B3 can have a duration of more than one year and is not constrained to a duration of exactly one year, as proposed by AlintaGas.

Interconnection Service

- CMS Submission No 1

  The Interconnection Service proposed by AlintaGas should be treated as, or at very minimum viewed in the context of, a Reference Service. A Reference Service is required to include a set of terms and conditions. CMS suggests that AlintaGas supplements its proposed Access Arrangement to include a set of benchmark terms and conditions for its Interconnection Service.

- Office of Energy

  AlintaGas states that each of the services it offers in its Access Arrangement including the Interconnection Service is likely to be sought by a significant part of the market. The Office of Energy agrees that with the opening of the retail market to become fully competitive during the operation of this Access Arrangement it is likely that the number of parties seeking to enter Interconnection Contracts with AlintaGas will increase. Therefore, the Office of Energy considers that the Regulator should approve a set of standard terms and conditions, and prices of the Interconnection Service. Terms, conditions and prices, which, are considered unreasonable for that service would have the potential to hinder access to AlintaGas distribution systems.

Clause 10 of Chapter 2 of the Access Arrangement states that the Interconnection Service provides a right to interconnect with the AlintaGas network, and the terms and conditions and prices upon which an Interconnection Service will be made are to be negotiated by AlintaGas and the person to whom that service is provided. The public submissions from CMS and the Office of Energy have indicated that the Interconnection Service should be a Reference Service, with specified terms and conditions.

The preamble to Chapter 2 of the Access Arrangement states that an Interconnection Service is likely to be sought by a significant part of the market. However, the Code does not require AlintaGas to offer the Interconnection Service as a Reference Service unless the Regulator considers that a Reference Tariff should be included.[4] In making a determination on this issue the Regulator has had regard to whether the service is likely to be sought by a significant part of the market, how frequently the service is likely to be requested, and how interconnection has been treated in other Access Arrangements.

[4] Since AlintaGas is already providing at least one service likely to be sought by a significant part of the market as a Reference Service, consistent with Section 3.3(a) of the Code, only a determination by the Regulator under section 3.3(b) of the Code can require it to offer another service as a Reference Service.

(a) Interconnection Service sought by Transmission Pipelines

There are two transmission pipelines of relevance to the AlintaGas network: the Dampier to Bunbury Natural Gas Pipeline (DBNGP) that transports gas from the North West Shelf, and the Parmelia Pipeline, that transports gas from the Perth Basin. The DBNGP is currently interconnected with the AlintaGas network at a number of points. The Parmelia Pipeline is not currently interconnected with the AlintaGas distribution systems, although discussions regarding interconnection are currently in progress between AlintaGas and CMS, owners of the Parmelia Pipeline.

Whatever the outcome of the current discussions between AlintaGas and CMS, it is considered that interconnection will be sought relatively infrequently by owners of the transmission pipelines. Interconnection will require new pipeline infrastructure to be designed and constructed with design elements affected by the technical requirements of each specific interconnection, which are likely to be dependent upon the exact point of interconnection with the AlintaGas network. Given the range of technical issues that would need to be resolved by both parties, there is likely to be a long lead time for interconnection, when sought. The resolution of such issues is likely to be better achieved through negotiation than through recourse to a pre-defined Reference Service.

(b) Interconnection Service sought by other Gas Distributors

In a fully deregulated gas market, an independent gas distributor may establish a separate distribution system and seek to interconnect with the AlintaGas network for its supply of gas, rather than interconnect with a transmission pipeline. However, such an event is not expected to occur frequently and, in any case, is not expected to occur for the foreseeable future. If interconnection between different distribution systems occurred in the future, it is likely to be a very complex arrangement. Given that the design specifications for interconnection will be dependent upon the exact point of interconnection it is considered that, as in the case of interconnection with transmission pipelines, interconnection between distribution networks would not easily be accommodated as a Reference Service. Rather, the resolution of design and technical issues related interconnection would be best resolved through negotiation.

(c) Treatment of Interconnection in other Access Arrangements

The Access Arrangements submitted for distribution networks in Victoria,[5] New South Wales[6] and South Australia[7] do not offer, or propose to offer, an interconnection service as a Reference Service.

Interconnection between the AlintaGas network and other transmission or distribution systems is likely to be sought relatively infrequently and will require some extremely complex technical issues to be resolved. Given this, and that interconnection is not offered as a Reference Service in other Access Arrangements for distribution systems in other States, the Regulator considers that interconnection is best offered on the basis of a negotiated

[5] Multinet, Westar & Stratus; East Gippsland and Mildura.

[6] Albury Gas Company Ltd and Great Southern Energy.

[7] Envestra.

service by AlintaGas. Consequently, a Reference Tariff and terms and conditions do not need to be provided as part of the Access Arrangement. In any case, the Code provides strong support for interconnection through its Arbitration provisions, especially where interconnection will increase competition within the gas market. For instance, section 6.15(h) of the Code specifies that the Arbitrator must take into account the benefit to the public from having competitive markets when arbitrating a dispute.

The Regulator does not consider that an Interconnection Service should be a Reference Service for the purposes of the Access Arrangement.

Listed Ancillary Services

- Office of Energy

  The Office of Energy considers that given that the four listed ancillary services would be utilised by a significant part of the market, the prevailing standard terms and conditions for those listed ancillary services mentioned in Section 16 (2) should be approved by the Regulator.

The preamble to Chapter 2 of the Access Arrangement states that listed ancillary services are likely to be sought by a significant part of the market. The Code does not require AlintaGas to offer the listed ancillary services as a Reference Service unless the Regulator considers that a Reference Tariff should be included.[8] The listed ancillary services offered by AlintaGas are specified in Division 4 of Chapter 2 as a disconnection service, a reconnection service, an additional meter reading service and an additional meter testing service.

In making a determination on this issue, the Regulator has taken into account whether ancillary services of the type offered by AlintaGas has been offered as Reference Services in other Access Arrangements. With the exception of the Envestra Access Arrangement for the South Australian Distribution System, which proposes to offer three ancillary services as Utility Reference Services, the Access Arrangements submitted for distribution networks in other States indicate that ancillary services of the type referred to here by AlintaGas are not normally treated as Reference Services.

The ancillary services in question are relatively simple in nature and are presently offered to Users without specific terms and conditions. The imposition of a requirement for terms and conditions to be available would impose an additional administrative burden, which would not necessarily provide additional benefits to Users.

In view of the above, the Regulator considers that AlintaGas should not be required to offer its listed ancillary services as Reference Services, and terms and conditions for the provision of such services need not to be included in the Access Arrangement.

[8] Since AlintaGas is already providing at least one service likely to be sought by a significant part of the market as a Reference Service, consistent with Section 3.3(a) of the Code, only a determination by the Regulator under section 3.3(b) of the Code can require it to offer another service as a Reference Service.

Gas Quality Specification

- CMS Submission No 1

  The gas quality specification appearing in Chapter 2 Division 5 of the proposed Access Arrangement is more stringent than the requirements laid down in the Gas Standards (Natural Gas) Regulations 1999 issued under the Gas Standards Act 1972. This proposed narrowing of the gas specification directly discriminates in favour of gas supplied from the DBNGP and against gas from the Parmelia Pipeline. This is because the DBNGP has a more onerous gas quality specification, and the proposed AlintaGas specification accommodates the DBNGP specification but not the Parmelia Pipeline specification. Proponents of the DBNGP gas quality specification have argued that its narrow definition is required to ensure the safe operations of "old appliances" in the residential segment of the market. This argument warrants further consideration.

- Office of Energy

  The gas quality relevant to the Parmelia Pipeline would need to be carefully considered in the context of the proposed interconnection between the two systems.

Clause 20 of the Access Arrangement states that gas entering and being transported through the AlintaGas network must comply with the standards detailed in Regulation 4 of the *Gas Standards (Natural Gas) Regulations 1999* and the broadest specification requirements for Category B and Category C gas in the DBNGP.[9]

The broadest specification has been developed as a general gas quality standard, which could apply generally to gas distribution systems in Western Australia. While the broadest specification is less stringent than the standards set out in the *Gas Standards (Natural Gas) Regulations 1999* for the Higher Heating Value and the Wobbe Index, it is more stringent for Maximum Total Sulphur. The broadest specification also imposes limits for other gas quality components, which have no limits set under the *Gas Standards (Natural Gas) Regulations 1999*. While the broadest specification is obviously more stringent for components which have no corresponding limit set under the *Gas Standards (Natural Gas) Regulations 1999*, the limits set in the broadest specification are considered reasonable for gas distribution systems. Service Providers should not therefore be precluded from applying limits for other gas quality components simply because they are not specified in the *Gas Standards (Natural Gas) Regulations 1999*.

However, clause 20 of the Access Arrangement, as it has been written, does not present a consistent and unambiguous set of gas quality specifications. Consequently, it may be difficult for Users and Prospective Users to understand exactly what gas quality specifications will apply.

The following amendment is required before the Access Arrangement will be approved.

[9] Set out in Schedule 1 to the *Dampier to Bunbury Pipeline Regulations 1998*.

Amendment 3

Clause 20 of Chapter 2 of the Access Arrangement should be amended to clarify that, for each gas quality component listed, the most stringent specification contained in the *Gas Standards (Natural Gas) Regulations 1999* and the broadest specification as defined in the Access Arrangement and currently specified in the *Dampier to Bunbury Pipeline Regulations 1998* will prevail.

Applications Procedure

- CMS Submission No 1

  The AlintaGas Applications Procedure is not contained in the proposed Access Arrangement or the Access Arrangement Information as submitted. CMS believes this to be a significant omission. The means by which a Reference Service is obtained is fundamental to the Terms and Conditions of that Service. Further, the nature of any information regarding a prospective User which is to be provided to AlintaGas as a prerequisite for obtaining access to a Reference Service is of vital interest to all prospective Users of the Distribution Systems at this stage of public consultation.

- Chamber of Minerals and Energy Submission No 2

  Under the access regime, applicants will be required to submit an application in accordance with the "AlintaGas Applications Procedure". To date, no details of the procedure have been provided. The Chamber submits that any judgement on the access regime itself is incomplete without this information.

- Office of Energy

  It is noted that under Section 5.2 of the Code, the Regulator may require AlintaGas to amend or include additional information in the Information Package if the Regulator considers the amendment or additional information will assist Prospective Users to decide whether or not to seek Services or to determine how to go about seeking Services from AlintaGas.

A Prospective User wishing to obtain access to a service must submit an application in accordance with the AlintaGas Applications Procedure, as specified in clause 17 of the Access Arrangement. The AlintaGas Applications Procedure will, among other things, require a Prospective User to provide certain information to AlintaGas about itself and the service requested and will detail the processes by which access offers will be made and service agreements will be entered into. The AlintaGas Applications Procedure is also able, via clause 19(3), to waive, add to or vary one or more of the pre-conditions to the provision of services, which are specified in clauses 19(1) and 19(2) of the Access Arrangement.

The AlintaGas Applications Procedure is to be provided as part of the Information Package under section 5.1 of the Code. Section 5.2 of the Code makes provision for the Regulator to require the Service Provider to amend any of the information provided in the Information Package. Consequently, the Regulator considers that this provides an opportunity to ensure that pre-conditions, in addition to those listed in clauses 19(1) and 19(2) of the Access Arrangement, will be reasonable.

Notwithstanding this, the Regulator considers that pre-conditions of a material nature should be subject to public scrutiny and should therefore be included in the Access Arrangement. AlintaGas has indicated to the Regulator that the Applications Procedure will not include any pre-conditions of a material nature in addition to those currently indicated in the Access Arrangement. On this basis, the Regulator considers that no amendments are required to provisions of the Access Arrangement relating to the Applications Procedure.

4.2.4 Additional Considerations of the Regulator

Minimum Prudential and Insurance Requirements

Clause 19 of Chapter 2 of the Access Arrangement outlines the pre-conditions that must be met before AlintaGas will enter into a service agreement. Clause 19(1)(d) states that the Prospective User must satisfy AlintaGas's minimum prudential and insurance requirements. Since the Access Arrangement does not specify what these requirements are, the Regulator is unable to assess their reasonableness, as required under Section 3.6 of the Code.

The Regulator appreciates that minimum prudential and insurance requirements are likely to be specific to a particular User and may vary over time, in response to changes in economic and regulatory environments. The difficulty of providing a generic set of minimum prudential and insurance requirements in an Access Arrangement is therefore recognised.

Since clause 19(1)(d) is a pre-condition that must be met before AlintaGas will enter into a service agreement with a Prospective User, any dispute between AlintaGas and a Prospective User in relation to whether the requirements are reasonable can be directed to the Gas Disputes Arbitrator, under section 6 of the Code. Whilst the Regulator contends that this process provides protection for Prospective Users, the Regulator also considers that the minimum prudential and insurance requirements should be reasonable and be a statement to this effect included in the Access Arrangement.

The following amendment is required before the Access Arrangement will be approved.

Amendment 4
Clause 19(1)(d) of Chapter 2 of the Access Arrangement should be amended to include a statement indicating that the minimum prudential and insurance requirements are to be reasonable.

Contractual Rights

Clause 19(1)(b) of the Access Arrangement states that AlintaGas will only enter into a service agreement if doing so would not deprive any person of a contractual right that existed prior to the *commencement date of the Access Arrangement*, other than an exclusivity right, which arose on or after 30 March 1995. However, the wording of clause 19(1)(b) is inconsistent with the Code. Under Section 2.25 of the Code the Regulator must not approve an Access Arrangement which would deprive any person of a contractual right in existence prior to *the date the proposed Access Arrangement was submitted (or required to be submitted)*, other than an exclusivity right which arose on or after 30 March 1995.

The following amendment is required before the Access Arrangement will be approved.

Amendment 5
Clause 19(1)(b) of Chapter 2 should be amended to state that AlintaGas will only enter into a service agreement if it would not deprive any person of a contractual right that existed prior to 30 June 1999, other than an exclusivity right which arose on or after 30 March 1995.

4.3 TERMS AND CONDITIONS

4.3.1 Access Code Requirements

Section 3.6 of the Code requires that an Access Arrangement include the terms and conditions on which the Service Provider will supply each Reference Service. The terms and conditions included must, in the Relevant Regulator's opinion, be reasonable.

4.3.2 Access Arrangement Proposal

Terms and conditions specific to each Reference Service are set out in schedules 4, 5 and 6 of the Access Arrangement while general terms and conditions applicable to all Reference Services are set out in schedule 7 of the Access Arrangement.

4.3.3 Submissions from Interested Parties

Invoicing

- CMS Submission No 3

  Clause 15(1) appears to be relevant only to users receiving Reference Services A and B1, as customers receiving Reference Services B2 and B3 will have their meters read only four times per year at intervals of approximately 100 days.

Clause 15(1) of Schedule 7 of the Access Arrangement states that AlintaGas will invoice the User of Reference Services approximately 12 times each year at intervals of approximately 35 days, with each invoice reflecting meter readings taken during the invoicing period. The terms and conditions for B2 and B3 Reference Services state (clause 4 of Schedule 6) that AlintaGas will calculate and record the quantity of gas delivered to Users of B2 and B3 services approximately 4 times each year at intervals of approximately 100 days, implying the readings of meters at the same interval of approximately 100 days. CMS have noted the apparent inconsistency between the frequencies of meter reading and invoicing for Users of B2 and B3 services.

The apparent inconsistency between frequencies of invoicing and meter reading is resolved by noting that Users of B2 and B3 services will most likely be traders that are retailing gas to large numbers of individual gas customers (households and small businesses). The terms and conditions provide for invoices to these Users to reflect meter readings of the preceding invoice period. Under these provisions, each invoice will, on average, seek payment for gas distribution to some one-quarter to one-third of customers. Invoicing for gas distribution to any individual customer will occur only on every third or fourth invoice. It is noted that the terms and conditions provide only for invoicing of amounts reflecting meter readings and not for any imputed quantity of gas distribution in periods between meter readings.

No amendments are required to provisions of the Access Arrangement relating to invoicing for the B2 and B3 services.

Liability of Parties

- CMS Submission No 3

  Clause 47(1) is unreasonable because it could possibly be used to allow AlintaGas to walk away with no liability if it caused damage to customers' land or property.

- Office of Energy

  It may be appropriate for the Access Arrangement to state that AlintaGas, its officers, servants, or agents would use best endeavours to minimise damage in the course of performing their duties.

Under clause 47(1) of Schedule 7 of the Access Arrangement, AlintaGas will not be liable to pay compensation or make good any damage done to the land or premises of the User or the User's gas customer provided that AlintaGas acted in a reasonable manner when installing the required delivery facilities. By implication, if AlintaGas acted unreasonably during the course of installation, then it would be liable for the payment of compensation or the making good of any damage done.

Clause 47(2) states that AlintaGas is not obliged to reinstate or make good, or pay compensation in respect of any surface, lawn, landscaping or other improvement that is affected during the course of installing delivery facilities. Clause 47(2) does not require AlintaGas to act in a reasonable manner during the course of installing the delivery facilities. The Regulator considers that clause 47(2) is inconsistent with the intent of clause 47(1) and may not ensure that AlintaGas is liable to reinstate or make good, or pay compensation if it acted in an unreasonable manner under clause 47(2). The Regulator also considers that AlintaGas should be liable to pay compensation for damage caused by unreasonable acts in the course of installing gas delivery facilities.

The following amendment is required before the Access Arrangement will be approved.

Amendment 6 Clause 47(2) of Schedule 7 of the Access Arrangement should be amended to ensure that AlintaGas will make good, or pay compensation in respect of, damage caused by unreasonable acts of AlintaGas in the course of installing gas delivery facilities.

Terms and Conditions for Non-Reference Services

- Western Power

  Generally it appears that non-price terms and conditions may be satisfactorily provided for under a negotiated service agreement between a User and the Service Provider. However, there are some concerns with the relative negotiating positions of the parties under this approach.

The submission from Western Power indicates a concern that should Prospective Users and the Service Provider negotiate the terms and conditions upon which services are provided, the relative negotiating positions of the parties will not be equal and the Service Provider will be able to secure a more favourable outcome. Inclusion of a generic set of non-price terms and conditions in the Access Arrangement, that are applicable to negotiated service agreements such as Non-Reference Services, may be one way to address this problem.

Section 3.6 of the Code requires that terms and conditions be provided for Reference Services within the Access Arrangement. The Regulator assesses the terms and conditions on the basis of whether they are reasonable and whether they generally conform to the requirements of the Code.

The Code does not require terms and conditions to be provided for Non-Reference Services. It is for the Prospective User and the Service Provider to negotiate the terms and conditions upon which Non-Reference Services are to be provided. In the event that a Prospective User is unable to negotiate reasonable terms and conditions for Non-Reference Services, the Prospective User may seek to have any resulting dispute resolved by the Gas Disputes Arbitrator.

Disclosure of Confidential Information

- Office of Energy

  It is understood that the obligation of confidentiality imposed by the Access Arrangement does not prevent the disclosure of information, which is required under any law including the Gas Pipelines Access (WA) Act 1998 and the Code. Therefore it is not considered appropriate for the Access Arrangement to attempt to modify that Act and the Code by excluding the Access Arrangement confidentiality provisions from the application of any part of the Act and the Code.

The circumstances under which confidential information can be disclosed are set out in clause 52 of Schedule 7 of the Access Arrangement. The Office of Energy submission indicates concern that clause 52(5) is seeking to redefine the relationship between the Code and the Access Arrangement with respect to confidential information by stating that the definition of confidential information in section 10.8 of the Code does not apply to clause 52.

On the basis of legal advice, the Regulator considers that there is no requirement for AlintaGas to adopt the definition of confidential information contained in section 10.8 of the Code, since this definition relates to ring-fencing arrangements and not to the commercial relationship between a User and a Service Provider. It is noted, however, that the consequence of clause 52(5) is that the provisions in the Access Arrangement relating to confidential information now operate without a clear definition, leaving the matter to interpretation under common law. Whilst this may be satisfactory, the Regulator is concerned that the Access Arrangement does not contain, or refer to, a definition of confidential information for the purposes of clause 52. The Regulator considers that an alternative definition to that provided in section 10.8 of the Code would be an appropriate means to provide greater certainty in this regard.

The Regulator has also given consideration to the circumstances under which confidential information listed under clause 52(2) of Schedule 7 may be disclosed. The Regulator considers that the wording of clause 52(2)(e) provides an unreasonable level of discretion as to the circumstances under which information can be disclosed during the course of any restructuring or sale of AlintaGas. To address this concern, the Regulator considers that the wording of clause 52(2)(e) be qualified so as to ensure that only confidential information that is reasonably required for the specified purpose be disclosed.

The following amendments are required before the Access Arrangement will be approved.

Amendment 7

Division 12 of Schedule 7 of the Access Arrangement, which relates to interpretation, should be amended to insert a definition of confidential information that is applicable to clause 52, relating to confidentiality, in order to provide greater certainty as to the meaning of confidential information for the purposes of this clause.

Amendment 8

Clause 52(2)(e) of Schedule 7 of the Access Arrangement should be amended to ensure that information of a confidential nature would only be disclosed in the course of any restructuring or sale of AlintaGas if it is the reasonable opinion of the disclosing party that the information is required to be disclosed.

Dispute Resolution

- Office of Energy

  The Office of Energy considers that it is appropriate and convenient for the independent Arbitrator, established in Western Australia for the purposes of the Code, to hear all access disputes in relation to covered gas pipelines and distribution systems. This will provide for consistency in dispute resolution and enable information to flow back to the Regulator. It would be useful if AlintaGas provides examples of what kind of disputes it considers may not be heard and determined by the Arbitrator.

The Code Arbitrator has functions under section 6 of the Code to resolve disputes between Prospective Users and Service Providers. Extending the functions of the Code Arbitrator to disputes relating to Service Agreements is limited by the regulatory provisions of the Code and is outside the scope of consideration by the Regulator. Normal contract arbitration procedures are, however, able to accommodate disputes relating to Service Agreements. In addition, the Code does not preclude parties to a dispute in respect of a Service Agreement agreeing to have the dispute arbitrated by the Code Arbitrator.

- Western Power

  Procedures for resolving disputes over the terms and conditions of access are set out in Section 6 of the Code. AlintaGas's proposed Access Arrangement builds on these procedures by providing further details on how arbitration should proceed. However, these details are included in Schedule 7, which only applies to Reference Services. Accordingly, the additional arrangements for arbitration will not be available for users of Non-Reference Services.

  Western Power believes that these dispute resolution arrangements should apply to all services including those directly negotiated between the Service Provider and the User, as intended in the National Code.

Section 3.6 of the Code requires a Service Provider to include a set of terms and conditions upon which it will provide Reference Services. There is, however, no requirement upon the Service Provider in sections 3.1 to 3.20 of the Code to set out the terms and conditions upon which it will provide Non-Reference Services.

The dispute resolution procedures set out in Schedule 7 of the Access Arrangement relate to Reference Services. A Prospective User of a Non-Reference Service that wishes to have access to the dispute resolution procedures must negotiate their inclusion into the terms and conditions upon which that service will be provided. If a dispute arises between a Prospective User and the Service Provider during negotiation of the terms and conditions upon which a Non-Reference Service is to be provided, the dispute can be referred under

section 6 of the Code, to the Gas Disputes Arbitrator for consideration. The Regulator therefore considers that the arbitration procedures outlined in the Code provide sufficient safeguard for Prospective Users of Non-Reference Services

4.3.4 Additional Considerations of the Regulator

Accuracy Verification

Schedule 4 and schedule 5 of the Access Arrangement outline the terms and conditions upon which Reference Service A and B1 are offered. Clause 3 of both schedules states that the Haulage Contract may detail procedures as to when and how often the User may request AlintaGas to verify the accuracy of the meter forming part of any user specific delivery facilities and the procedures by which, and terms and conditions on which, that verification is to be carried out.

On the basis of advice from the Director of Energy Safety, the Regulator considers that the terms and conditions for Reference Service A and B1 should specify the minimum frequency at which AlintaGas will verify the accuracy of meters. This is considered important by virtue of the high volumes of gas being delivered to Users of Reference Service A and B1.

The following amendment is required before the Access Arrangement will be approved.

Amendment 9 Schedules 4 and 5 of the Access Arrangement should be amended to specify the minimum frequency that AlintaGas will adopt to verify the accuracy of meters.

Provision of Security

Clause 7(a) of Schedule 7 of the Access Arrangement states that AlintaGas may from time to time require a User to provide security for the performance of its obligations under a Haulage Contract and the security may be of such type and such extent as AlintaGas reasonably determines. Since the security that AlintaGas would require, and the circumstances under which the security would be requested, are not specified in the Access Arrangement the Regulator is not able to assess the reasonableness of these conditions.

The Regulator appreciates that the level of security that AlintaGas may require is likely to be specific to a particular User and the particular circumstances that give rise to the requirement for some form of security. It is also recognised that AlintaGas would have difficulty in specifying the level of security required under this clause in the Access Arrangement.

Since clause 7(a) is a contractual requirement, any dispute between AlintaGas and an existing User in relation to whether the security is required or reasonable can be dealt with under the dispute resolution provisions provided for under Schedule 7 of the Access Arrangement for Reference Services, or any provision negotiated by the User prior to entering the service agreement.

Whilst the Regulator recognises that this process provides protection for Users, the Regulator also considers that the security requirements should reflect the minimum necessary to protect AlintaGas's legitimate business interests. Such a qualification to the requirement for security

will provide the Arbitrator with an additional point of reference by which to assess any disputes on this issue.

The following amendment is required before the Access Arrangement will be approved.

Amendment 10
Clause 7(a) of Schedule 7 of the Access Arrangement should be amended to ensure that, if AlintaGas requires a User to provide security for the performance of its obligations under a Haulage Contract, the security must be the minimum amount necessary to protect AlintaGas's legitimate business interests.

Force Majeure

The extent to which force majeure can be claimed by a party determines the extent to which that party is liable for failure to meet its obligations under a Haulage Contract. If the circumstances under which a party can claim force majeure do not reflect events outside of its control, the allocation of risk between parties will not be optimal. The risk of discontinuity of supply and a lower level of service quality is likely to be higher in circumstances where a party can claim force majeure that does not reflect events outside of its control.

Clause 28(1) of Schedule 7 of the Access Arrangement excludes a party from the performance of any of its obligations under the Haulage Contract if it is prevented from doing so by the occurrence of a force majeure event, other than payment of any charge or charges that are specified by the Code, Access Arrangement or Haulage Contract. The opening paragraph of the definition of force majeure in Division 12 of Schedule 7 states that "force majeure is any event or circumstance not within a party's control and which the party, by applying the standard of a reasonable and prudent person, is not able to prevent or overcome, which includes without limitation". The definition goes on to list specific force majeure events.

The Regulator considers that the specific events listed below the general provision may not necessarily fall within the wording of the general provision. That is, the wording of the general provision may not adequately ensure that the specific events listed must be outside a party's control and which the party, by applying the standard of a reasonable and prudent person, is not able to prevent or overcome, to be a force majeure event.

The following amendment is required before the Access Arrangement will be approved.

Amendment 11
Division 12 of Schedule 7 of the Access Arrangement should be amended to ensure that the general provision that "… in the event or circumstance not within a party's control and which the party, by applying the standard of a reasonable and prudent person, is not able to prevent or overcome …" clearly applies to each of the specific events listed as force majeure events.

The ongoing liability of a User to pay charges under a haulage contract when the distribution service is interrupted by a force majeure event is considered to be unreasonable, particularly for Users of Reference Service A for which tariffs comprise a substantial fixed charge component. The Regulator considers that the Access Arrangement should be amended to

provide for the waiving of a relevant amount of any fixed charges for the period of interruption of a distribution service arising from a force majeure event.

The following amendment is required before the Access Arrangement will be approved.

Amendment 12
The Access Arrangement should be amended to provide for the waiving of fixed charges of a Reference Tariff for any period in which provision of a Reference Service is interrupted or reduced by a force majeure event.

Correction of Payment Errors

Clause 18 of Schedule 7 sets out the procedure for correcting for an underpayment or overpayment between parties. The clause makes provision that, in the case of an underpayment to AlintaGas, the amount will attract interest calculated daily from the date of underpayment until payment. The Regulator has assessed the reasonableness of clause 18 and considers that payment of interest should apply symmetrically to overpayments and underpayments to AlintaGas, and that a reasonable period should be given for a party to rectify any underpayment or overpayment before interest is payable as opposed to the date of underpayment as proposed in clause 18.

The following amendment is required before the Access Arrangement will be approved.

Amendment 13
Clause 18 of Schedule 7 of the Access Arrangement should be amended so that interest is accrued on underpayments or overpayments after a reasonable period has been given for a party to rectify the underpayment or overpayment, rather than from the actual date of underpayment or overpayment.

Default by a Party

Clause 35 of Schedule 7 of the Access Arrangement outlines the circumstances under which a party is in default under the Haulage Contract. It is important that the conditions for default are clearly specified and do not provide unreasonable discretion for the Service Provider to declare that a User is in default.

Clause 35(c) makes provision for a party to declare another party is in default if an order is made or a resolution is passed for the winding up or dissolution without winding up of the party otherwise than for the purpose of reconstruction or amalgamation under a scheme to which the other party has given consent. The Regulator considers that whilst there is a requirement to protect the commercial interests of a party from a *potential* default of another party under clause 35(c), the clause as written may provide that party with too much discretion to unreasonably withhold consent and declare that party in *actual* default. The clause would benefit from stating that a party's consent to a proposed reconstruction or amalgamation scheme should not be unreasonably withheld. However, the Regulator also notes that the concession for default not to be declared where the winding up or dissolution is made for the purpose of reconstruction or amalgamation already exceeds normal commercial practice. In view of this, no amendment to the Access Arrangement is contemplated.

Clause 35(d) makes provision for a party to declare another party is in default if there has been an adverse change in the business or financial conditions of the other party or an event occurs which could, in the reasonable opinion of the other party, jeopardise the ability of that party to meet its obligations under the Haulage Contract. The Regulator considers that the clause as written may provide either party with too much discretion as to what constitutes an adverse change in business or financial conditions. The clause would benefit from stating that the change must be a material change that would materially affect the other party's ability to meet its obligations under the Haulage Contract.

Clause 35(g) makes provision for default to be declared under any other circumstances that are specified in the Haulage Contract. As these other circumstances are not specified in the Access Arrangement, the Regulator is unable to assess their reasonableness, as required under section 3.6 of the Code. However, if a Prospective User disputes the reasonableness of any other default circumstances specified in a Haulage Contract when negotiating access to a service, the dispute can be referred to the Gas Disputes Arbitrator for a resolution. Since the Arbitrator is available to resolve any such dispute there is protection against other default circumstances that may be considered unreasonable being incorporated in Haulage Contracts.

The following amendment is required before the Access Arrangement will be approved.

Amendment 14 Clause 35(d) of Schedule 7 of the Access Arrangement should be amended to ensure that a party cannot be declared in default under the Haulage Contract unless there is an adverse change in the business or financial condition of that party or an event occurs which could, in the reasonable opinion of the other party, materially affect the other party's ability to meet its obligations under the Haulage Contract.

Duration for Remedying a Default

Clause 38 of the Access Arrangement makes provision for a party to terminate a Haulage Contract if a payment default is not remedied within 3 business days and any other default is not remedied within 7 business days. In making a determination on the reasonableness of these periods, the Regulator has taken regard of the equivalent periods specified in other Access Arrangements.

Although the period within which defaults should be remedied in other Access Arrangements varies, the AlintaGas Access Arrangement provides a shorter period within which defaults can be remedied prior to a party having the option to terminate the contract.[10] Consequently, the Regulator considers that the periods proposed in the Access Arrangement do not provide a reasonable period of time within which Users can seek to remedy a default.

The following amendment is required before the Access Arrangement will be approved.

[10] For example, Great Southern Network propose 10 business days for payment defaults and 20 business days for all other defaults in their Access Arrangement, whereas Envestra propose 7 days for payment defaults and up to 21 days (which includes a 7 day notice period) for other defaults in their Access Arrangement for the South Australian Distribution Network.

Amendment 15

Clause 38 of Schedule 7 of the Access Arrangement should be amended to ensure that a party has at least 5 business days to remedy a payment default and 15 business days to remedy any other default, once it has received written notice from the other party, before the other party can terminate a Haulage Contract.

4.4 CAPACITY MANAGEMENT POLICY

4.4.1 Access Code Requirements

Section 3.7 of the Code requires that an Access Arrangement include a statement (a Capacity Management Policy) that the covered pipeline is either:

(a) a Contract Carriage Pipeline; or

(b) a Market Carriage Pipeline.

Contract Carriage is a system of managing third party access whereby:

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

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

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

(d) a User normally has the right to trade its right to obtain a service to another User.

Market Carriage is a system of managing third party access whereby:

(a) the Service Provider does not normally manage its ability to provide Services primarily by requiring Users to use no more than the quantity of Service specified in a contract;

(b) Users are not normally are required to enter into a contract that specifies a quantity of Service;

(c) charges for use of Services are normally based on actual usage of Services; and

(d) a User does not normally have the right to trade its right to obtain a service to another User.

Section 3.8 of the Code requires that the Relevant Regulator must not accept an Access Arrangement which states that the covered pipeline is a Market Carriage Pipeline unless the Relevant Minister of each Scheme Participant in whose Jurisdictional Area the pipeline is wholly or partly located has given notice to the Relevant Regulator permitting the covered pipeline to be a Market Carriage Pipeline.

4.4.2 Access Arrangement Proposal

In Chapter 4 of the Access Arrangement AlintaGas proposes to manage the Mid-West and South-West Gas Distribution Systems as a Contract Carriage pipeline.

4.4.3 Submissions from Interested Parties

None of the submissions made in respect of the AlintaGas Access Arrangement addressed the proposed Capacity Management Policy.

4.4.4 Additional Considerations of the Regulator

The Regulator recognises that the Code requires no more than a statement in the Access Arrangement that the covered pipeline is a Contract Carriage or Market Carriage pipeline, subject to Ministerial permission for any proposal for the pipeline to be a Market Carriage Pipeline. As the Access Arrangement proposes that the pipeline will be managed as a Contract Carriage Pipeline, it is considered that the requirements of the Code are met.

4.5 TRADING POLICY

4.5.1 Access Code Requirements

Section 3.9 of the Code requires that an Access Arrangement for a covered pipeline which is described in the Access Arrangement as a Contract Carriage Pipeline must include a policy that explains the rights of a User to trade its right to obtain a Service to another person (a Trading Policy).

Section 3.10 of the Code requires that the Trading Policy must comply with the following principles.

(a) A User must be permitted to transfer or assign all or part of its Contracted Capacity without the consent of the Service Provider concerned if:

(i) the User's obligations under the contract with the Service Provider remain in full force and effect after the transfer or assignment; and

(ii) the terms of the contract with the Service Provider are not altered as a result of the transfer or assignment (a Bare Transfer).

In these circumstances the Trading Policy may require that the transferee notify the Service Provider prior to utilising the portion of the Contracted Capacity subject to the Bare Transfer and of the nature of the Contracted Capacity subject to the Bare Transfer, but the Trading Policy must not require any other details regarding the transaction to be provided to the Service Provider.

(b) Where commercially and technically reasonable, a User must be permitted to transfer or assign all or part of its Contracted Capacity other than by way of a Bare Transfer with the prior consent of the Service Provider. The Service Provider may withhold its consent only on reasonable commercial or technical grounds and may make its consent subject to conditions only if they are reasonable on commercial and technical grounds. The Trading

Policy may specify conditions in advance under which consent will or will not be given and conditions that must be adhered to as a condition of consent being given.

(c) Where commercially and technically reasonable, a User must be permitted to change the Delivery Point or Receipt Point from that specified in any contract for the relevant Service with the prior written consent of the Service Provider. The Service Provider may withhold its consent only on reasonable commercial or technical grounds and may make its consent subject to conditions only if they are reasonable on commercial and technical grounds. The Trading Policy may specify conditions in advance under which consent will or will not be given and conditions that must be adhered to as a condition of consent being given.

Section 3.11 of the Code provides examples of matters that would be reasonable for the purposes of section 3.10(b) and (c):

(a) the Service Provider refusing to agree to a User's request to change its Delivery Point where a reduction in the amount of the Service provided to the original Delivery Point will not result in a corresponding increase in the Service Provider's ability to provide that Service to the alternative Delivery Point; and

(b) the Service Provider specifying that, as a condition of its agreement to a change in the Delivery Point or Receipt Point, the Service Provider must receive the same amount of revenue it would have received before the change.

4.5.2 Access Arrangement Proposal

A Trading Policy is provided by AlintaGas in Chapter 5 of the Access Arrangement document. Bare Transfers and Consent Transfers are provided for in Division 1 of Chapter 5.

With respect to Bare Transfers, the following information will be sought by AlintaGas from the transferee no more than three business days before the transferred or assigned contracted peak rate is utilised.

- The identity of the User which made the transfer or assignment, and the identity of the transferee or assignee.
- Information on the nature of the contracted peak rate which was transferred or assigned should include the amount transferred or assigned and the location of the relevant receipt point and delivery point.
- The duration of the transfer or assignment.

With respect to Consent Transfers, AlintaGas proposes to be able to withhold consent to the transfer or assignment on reasonable commercial or technical grounds. AlintaGas also proposes to be able to withhold consent if any or all of the pre-conditions to the provision of services specified in Division 5 of Chapter 2 (Services Policy) of the Access Arrangement are not satisfied.

The Trading Policy provides for the relocation of the receipt or delivery point in Division 2 of Chapter 5 of the Access Arrangement. AlintaGas proposes to be able to withhold consent to the relocation of the receipt or delivery point on reasonable commercial or technical grounds.

AlintaGas also proposes to be able to withhold consent if any or all of the pre-conditions to the provision of services specified in clauses 19(1) and 19(2) of Chapter 2 (Services Policy) of the Access Arrangement are not satisfied. When the User notifies AlintaGas that it intends to relocate a receipt or delivery point, the Queuing Policy is to apply to this notice as if the notice was an application.

4.5.3 Submissions from Interested Parties

Market Trading System

- Western Power

  In addition to setting down the Policy, it may be worth providing for some form of market trading system to be established if there is sufficient demand. This would involve providing information on capacity that is available or wanted and matching bids to enable capacity trades.

The Western Power submission advocates that consideration be given to the implementation of a market trading system for unused capacity, if sufficient demand for such a system exists. Such a system would comprise a "secondary market". A market trading system of the type proposed by Western Power would in all likelihood list the capacity which a User wishes to sell or purchase on the AlintaGas distribution network, the receipt and delivery point between which the capacity is available or wanted, the period when that capacity is available or wanted and the price that the User is willing to receive or pay for the capacity.[11] The rationale for establishing a formalised market trading system is that it will provide buyers and sellers with more information on capacity availability and requirements, than would a less formalised trading system, and will facilitate more efficient outcomes.

Whatever the merits in establishing a formalised market trading system, the provision of such a system is not required under sections 3.9 to 3.11 of the Code. Whilst this does not preclude AlintaGas from submitting proposals for a trading mechanism to the Regulator for his approval at a later date if it perceives that there is merit in establishing one, the Regulator is unable to insist that AlintaGas make provision for one within its Access Arrangement.

The Code does, however, require Users and Service Providers to provide certain market-type information on unutilised capacity, which is not inconsistent with that which would be provided under a formalised market trading system. Section 5.8(a) of the Code requires a User who does not expect to fully utilise its contracted capacity to provide information on this unutilised capacity to any person who requests it. Section 5.8(b) of the Code provides discretion to the User to also pass information relating the unutilised contracted capacity to the Service Provider as well. Moreover, section 5.9 of the Code requires the Service Provider to establish and maintain a public register which includes an indication of the spare capacity that it reasonably believes exists along the covered pipeline, information on planned or committed developable capacity and any information provided to it by Users under section 5.8(b) of the Code. Interested parties can therefore obtain information on the availability of capacity on the AlintaGas distribution network from the public register that AlintaGas is obliged to maintain under the Code.

[11] The provision of a trading mechanism of this nature has been provided for by Great Southern Network in its Access Arrangement for the Wagga Wagga Gas Distribution System (section 8.4 of the proposed Access Arrangement).

4.5.4 Additional Considerations of the Regulator

Notification of Bare Transfers

Clause 43(3) of Chapter 5 of the Access Arrangement provides for AlintaGas to be notified of required information no later than three business days before the transferee or assignee utilises the transferred or assigned contracted peak rate. The Code only requires that the transferee notify the Service Provider *prior* to the utilisation of capacity and does not specify a minimum time period that must be adhered to. The requirement for a minimum of three business days would preclude Bare Transfers at short notice, which would prevent the Trading Policy from inducing an economically efficient operation of the AlintaGas distribution network, as required under section 2.24(d) of the Code. Given that Bare Transfers do not alter the User's obligations under the contract with the Service Provider or the terms of that contract, the minimum period of three business days is inconsistent with the intent of the Code, in particular section 2.24(d).

The following amendment is required before the Access Arrangement will be approved.

Amendment 16 Clause 43(3) of Chapter 5 should be amended to remove the requirement that a transferee must notify AlintaGas at least three business days prior to the utilisation of capacity under a Bare Transfer.

4.6 QUEUING POLICY

4.6.1 Access Code Requirements

Section 3.12 of the Code requires that an Access Arrangement must include a policy for determining the priority that a Prospective User has, as against any other Prospective User, to obtain access to spare capacity and developable capacity (and to seek dispute resolution under section 6 of the Code) where the provision of the Service sought by that Prospective User may impede the ability of the Service Provider to provide a Service that is sought or which may be sought by another Prospective User (a Queuing Policy).

Section 3.13 of the Code requires that the Queuing Policy must:

(a) set out sufficient detail to enable Users and Prospective Users to understand in advance how the Queuing Policy will operate;

(b) accommodate, to the extent reasonably possible, the legitimate business interests of the Service Provider and of Users and Prospective Users; and

(c) generate, to the extent reasonably possible, economically efficient outcomes.

Section 3.14 of the Code provides for the Relevant Regulator to require the Queuing Policy to deal with any other matter the Relevant Regulator thinks fit, taking into account the matters listed in section 2.24 of the Code, viz:

(a) the Service Provider's legitimate business interests and investment in the covered pipeline;

(b) firm and binding contractual obligations of the Service Provider or other persons (or both) already using the covered pipeline;

(c) the operational and technical requirements necessary for the safe and reliable operation of the covered pipeline;

(d) the economically efficient operation of the covered pipeline;

(e) the public interest, including the public interest in having competition in markets (whether or not in Australia);

(f) the interests of Users and Prospective Users; and

(g) any other matters that the Relevant Regulator considers are relevant.

4.6.2 Access Arrangement Proposal

A Queuing Policy is provided by AlintaGas in Chapter 6 of the Access Arrangement.

The Queuing Policy sets out the criteria for determining the priority of Prospective Users to obtain access to services, where two or more Prospective Users are competing for access to spare capacity and developable capacity. Provision is made for a single queue (the first come first served queue) for all Prospective Users, irrespective of whether the Prospective User is seeking to increase its contracted peak rate at a given delivery point within an existing service agreement or is seeking to enter into a new service agreement (i.e. not currently in an agreement).

A Prospective User's priority in respect of an application will be determined on a first come first served basis. However, AlintaGas seeks to depart from the first come first served principle if it believes it necessary to do so in order to:

- accommodate the legitimate business interests of AlintaGas, Users or Prospective Users;
- generate an economically efficient outcome; or
- deal with a vexatious application by a Prospective User.

AlintaGas proposes that if there is a departure from the first come first served principle notice will be given of that action to all Prospective Users in the first come first served queue who are affected.

The position of a Prospective User's application in the first come first served queue is to be determined by reference to the time at which AlintaGas received the application. If more than one application is submitted by a Prospective User, or an amendment to an existing application is requested, then they are treated as separate applications. AlintaGas offers to process more than one application concurrently provided that there is no limitation on resources.

AlintaGas proposes to inform any Prospective User with an application in the first come, first served queue of the fact that another application exists and the position in the queue of the Prospective User who submitted that other application.

4.6.3 Submissions from Interested Parties

Vexatious Applications

- Western Power

  The National Code does not provide for AlintaGas's power to determine whether an application is vexatious, and to effectively drop it from the queue in such cases. Any disputes over queuing priorities will be handled under the dispute resolution procedures laid out in the National Code, and these specifically give the Regulator the power to deal with vexatious applications. It is not appropriate that AlintaGas be granted a similar power.

Clause 49(1)(b) of Chapter 6 (Queuing Policy) states that a Prospective User's priority in respect of an application will be determined on a first come first served basis except where AlintaGas considers the Prospective User's application to be vexatious. The Western Power submission contends that the Code does not make provision for the Service Provider to determine whether an application is vexatious.

If AlintaGas receives an application from a Prospective User that it considers is vexatious, clause 49(1)(b) of the Access Arrangement makes provision for AlintaGas to notify the Prospective User accordingly. If the Prospective User considers that its application is not vexatious and a dispute develops, then section 6 of the Code makes provision for the dispute to be considered by the Gas Disputes Arbitrator. Thus, whilst clause 49(1)(b) provides AlintaGas with the initial ability to classify an application as vexatious, the power to determine whether the application is actually vexatious or not rests with the Gas Disputes Arbitrator. The Regulator therefore does not consider that clause 49(1)(b) of the Access Arrangement extends the power of the Service Provider beyond that bestowed by the Code.

Notification of Position in Queue

- Western Power

  There may also be merit in requiring AlintaGas to advise Users of their position in the queue rather than allowing them discretion on providing the information, as is currently proposed. Requirements of this nature are included in Queuing Policies for Access Arrangements elsewhere.

Clause 53 of Chapter 6 of the Access Arrangement provides AlintaGas with discretion to make available to any Prospective User with an application in the first come first served queue the fact that another application exists and the position in the queue of the Prospective User who submitted that other application. The Queuing Policy, however, does not make provision for a Prospective User with an application in the first come first served queue to be advised of its own position in the queue. Western Power contends that there is merit in requiring AlintaGas to inform Prospective Users of their position in the queue, and such a provision is not uncommon in other Access Arrangements.

The Code does not require a Service Provider to inform Prospective Users of their position in the queue. In making his decision, the Regulator has given regard to whether the provision of such information is consistent with section 3.13 of the Code, in particular, whether it would generate economically efficient outcomes, whilst accommodating the legitimate business interests of the Service Provider, Prospective Users and Users.

The Regulator considers that the most important information for a Prospective User, from a business planning perspective, is an estimate of the length of time before capacity becomes

available. The information will provide the Prospective User with an opportunity to organise other parts of its business activities to meet this time frame. On the other hand, a position in the queue is likely to be meaningless to a Prospective User since it provides little, if any, indication of when the capacity will become available, and associated business decisions could not be made with any degree of certainty. Consequently, the Regulator considers that providing a Prospective User with its position in the queue will not, in itself, generate more economically efficient outcomes.

The Regulator has also considered any additional information that is provided by the relevant Service Provider in other Access Arrangements.[12] In addition to advising an applicant of its position in the queue and an estimate of when capacity may become available, Service providers generally advise applicants of the total capacity sought under applications ahead of it in the queue and the size of any surcharge that may apply to developable capacity, if sought. This information is provided when the application enters the queue and when any change in the position of the application in the queue occurs.

Generally, the provision of more information should assist in generating more economically efficient outcomes, especially where the information acts as a signal to Prospective Users to target capacity elsewhere on the network. However, providing a party with an estimate of the total capacity sought under applications ahead of it in the queue may reveal commercially sensitive information about the other party when there are only one or two Prospective Users in that queue. Consequently, a Queuing Policy that provides information of this nature, in small number situations, may not accommodate the legitimate business interests of Users and Prospective Users, as required under section 3.13(b) of the Code.

The Code provides for an estimate of when capacity may become available to be provided when initial requests for capacity are made. If a Prospective User places a request with the Service Provider for capacity, but sufficient capacity does not exist to satisfy that request, section 5.6 of the Code obliges the Service Provider to inform the Prospective User when, based on current commitments, sufficient capacity may exist for the request to be satisfied. The Code does not make provision for a Service Provider to advise a Prospective User in the queue if current commitments change or the position of the Prospective User in the queue changes. The Regulator however contends there is merit in AlintaGas being required to advise Prospective Users in the first come first served queue when a change in the timing of the availability of capacity occurs.

The following amendment is required before the Access Arrangement will be approved.

> Amendment 17
>
> Clause 53 of the Access Arrangement should be amended to require AlintaGas to advise Prospective Users of an estimate of when capacity may become available, consistent with section 5.6 of the Code, and for AlintaGas to provide revised information to a Prospective User when the timing of the availability of the capacity changes.

[12] See, in particular, the AGL Gas Networks Ltd Access Arrangement for the NSW Network, the Great Southern Networks Access Arrangement for the Wagga Wagga Gas Distribution System and the EastCoast Gas Pty Ltd Access Arrangement for the proposed East Gippsland Gas Distribution System.

4.6.4 Additional Considerations of the Regulator

The role of a Queuing Policy is to provide a rule for the allocation of scarce capacity amongst competing parties. Such a rule is necessary as the price regulation being applied to the AlintaGas distribution business precludes prices from rising above the Reference Tariff to ration capacity. The Queuing Policy also seeks to ensure that the Service Provider is precluded from providing an unfair advantage to an affiliate or other User; and to ensure that if an arbitrator is faced with two competing claims for the same capacity, a rule exists for selecting between them.

Provision of Information

Section 3.13(a) of the Code requires that the Queuing Policy must set out sufficient detail to enable Users and Prospective Users to understand in advance how the Queuing Policy will operate. The Access Arrangement provides information on how the priority of applications in respect of access to spare capacity and developable capacity will be determined. However, the Regulator considers that there are a number of areas where the AlintaGas Distribution Queuing Policy does not provide adequate information on how it will function when spare or developable capacity sought by an applicant becomes available.

(a) At present, insufficient information is provided to enable Users and Prospective Users to understand the process by which an application is transformed into a service agreement when spare or developable capacity becomes available.[13] This problem arises because, under the current proposal, AlintaGas Distribution is under no obligation to inform applicants in the queue when capacity becomes available. It is important for Users and Prospective Users within a queue to understand how and when capacity becomes available.

(b) The Queuing Policy does not make it clear that spare or developable capacity would be made available to the applicant at the head of the queue. It is also not clear whether an applicant at the head of the queue that does not enter into a service agreement, if offered, would maintain its position in the queue, be placed at the back of the queue or be removed entirely from the queue by AlintaGas.

The following amendments are required before the Access Arrangement will be approved.

Amendment 18 Chapter 6 of the Access Arrangement should be amended to describe how an application at the head of the queue is transformed into a service agreement when the spare or developable capacity sought becomes available, and how and when AlintaGas will inform the applicant.

[13] The procedures by which spare or developable capacity will be offered to applicants positioned in a queue are generally outlined in other Access Arrangements submitted for gas distribution networks in other States. See, for example, the AGL Gas Networks Access Arrangement for the NSW Network and the East Coast Gas Pty Ltd Access Arrangement for the proposed East Gippsland gas distribution system.

Amendment 19

Chapter 6 of the Access Arrangement should be amended to describe what will happen to an application if the spare or developable capacity is not accepted by the applicant at the head of the queue.

Reduction in Capacity Sought under Application

Clause 51 of the Access Arrangement provides for any request for an increase in the contracted peak rate specified in an application to be treated as a separate application, whilst the original application will maintain its place in the queue. The Queuing Policy does not, however, state whether the position of an application will be affected if the Prospective User advises AlintaGas that it wishes to decrease the contracted peak rate specified in its original application.

Section 3.13(a) of the Code states that the Queuing Policy must set out sufficient detail to enable Users and Prospective Users to understand in advance how the Queuing Policy will operate. To be consistent with section 3.13(a) the AlintaGas Queuing Policy should clearly state whether a reduction in the capacity requested in an application will affect the position of that application in the queue. The Queuing Policy in other Access Arrangements enables a Prospective User to reduce the capacity requirements requested in its application without affecting the position of that application in the queue. The Regulator considers that such an arrangement may be appropriate for the AlintaGas Queuing Policy.

The following amendment is required before the Access Arrangement will be approved.

Amendment 20

Chapter 6 of the Access Arrangement should be amended to describe what would happen to a Prospective User's priority where another Prospective User with an application in the first come first served queue seeks to reduce the capacity requested in its application.

Priority of Continuity of Contract and Applications in the Queue

Clause 52(2)(b) of the Access Arrangement states that a User can extend the duration of a service agreement by exercising an option granted to it as part of the terms and conditions of the service agreement. This appears to provide an incumbent User of capacity with priority over a Prospective User with an application for that capacity in the Queue, when the User's existing service agreement expires. If this is the case, then the Queuing Policy should clearly state that an incumbent User will have priority over applications in the queue so that Users and Prospective Users understand in advance how the Queuing Policy will operate. If clause 52(2)(b) does provide priority to a User over a Potential User in the queue, the Arbitrator is unable to decide in favour of the Potential User should a dispute arise, since section 6.18(d) of the Code does not permit the Arbitrator to make a decision that is inconsistent with the Queuing Policy.

The purpose of clause 52(2)(b) is to provide commercial certainty to Users that they will be able to retail gas to their customers until such a time that they wish to exit the market. A lack of certainty on being able to extend an existing contract may deter entry into the retail market, resulting in reduced retailer competition. If the option to extend the duration of

existing contracts were removed, retailers may offset the risk of a shorter contract duration by attempting to increase prices to customers in the short term to ensure that any up-front fixed costs are recouped over a shorter time horizon. The inability to extend the length of existing contracts may increase the rate of turnover of retailers serving residential customers, which will be of no obvious benefit to end customers unless the cost of gas reduces as a result of new retailers coming into the market. It is considered, therefore, that the option to extend contract duration is an important component of the service agreement, which will induce a more economically efficient outcome than if an option were not provided.

The following amendment is required before the Access Arrangement will be approved.

Amendment 21 Chapter 6 of the Access Arrangement should be amended to clarify that an incumbent User, with an existing Haulage Contract that has an option to extend the contract, has priority over an application in the queue for the same capacity when the existing service agreement expires, if the User wishes to extend the duration of the Haulage Contract.

Queuing Policy and the Intent of the Code

Clause 49(1)(a) of Chapter 6 of the Access Arrangement states that a Prospective User's priority in respect of an application is to be determined on a first come first served basis except where, in AlintaGas's reasonable opinion, it is necessary or appropriate to depart from the first come first served principle:

i. in order to accommodate the legitimate business interests of one or more of AlintaGas, Users and Prospective Users; or

ii. in order to generate an economically efficient outcome.

The Regulator considers that the Access Arrangement has sought to meet the requirements of sections 3.13(b) and 3.13(c) of the Code by incorporating certain elements of text from the Code into clause 49(1)(a). However, importing text in this manner does not preserve the intent of the Code and is open to misinterpretation. Section 3.13(b) of the Code states that the Queuing Policy must accommodate, to the extent reasonably possible, the legitimate business interests of the Service Provider and of Users and Prospective Users. The provisions of the Access Arrangement for consideration of the legitimate interests of AlintaGas are not necessarily consistent with the intent of this part of the Code. In particular, the proposed Access Arrangement replaces the term "to the extent reasonably possible" as used in the Code, with the term "AlintaGas's reasonable opinion" and provides for the legitimate business interests of "AlintaGas" rather than the distribution arm of AlintaGas, as intended in the Code by the reference to the "Service Provider".

The following amendment is required before the Access Arrangement will be approved.

Amendment 22

Clause 49(1)(a) of Chapter 6 of the Access Arrangement should be amended to state that the Queuing Policy will operate on a first come first served principle, unless it is necessary to depart from this principle in order to accommodate, to the extent reasonably possible, the legitimate business interests of the Service Provider and of Users and Prospective Users (section 3.13(b) of the Code) and generate, to the extent reasonably possible, economically efficient outcomes (section 3.13(c) of the Code).

4.7 EXTENSIONS/EXPANSIONS POLICY

4.7.1 Access Code Requirements

Section 3.16 of the Code requires that an Access Arrangement include a policy (an Extensions/Expansions Policy) which sets out:

(a) the method to be applied to determine whether any extension to, or expansion of the Capacity of, the covered pipeline:

(i) should be treated as part of the covered pipeline for all purposes under the Code; or

(ii) should not be treated as part of the covered pipeline for any purpose under the Code;

(for example, the Extensions/Expansions Policy could provide that the Service Provider may, with the Relevant Regulator's consent, elect at some point in time whether or not an extension or expansion will be part of the covered pipeline or will not be part of the covered pipeline);

(b) how any extension or expansion which is to be treated as part of the covered pipeline will affect Reference Tariffs (for example, the Extensions/Expansions Policy could:

(i) indicate that Reference Tariffs will remain unchanged but a surcharge may be levied on Incremental Users where permitted by sections 8.25 and 8.26 of the Code; or

(ii) specify that a review will be triggered and that the Service Provider must submit revisions to the Access Arrangement pursuant to section 2.28 of the Code);

(c) if the Service Provider agrees to fund New Facilities if certain conditions are met, a description of those New Facilities and the conditions on which the Service Provider will fund the New Facilities.

The Relevant Regulator may not require the Extensions/Expansions Policy to state that the Service Provider will fund New Facilities, unless the Service Provider agrees.

4.7.2 Access Arrangement Proposal

An Extensions/Expansions Policy is provided by AlintaGas in Chapter 7 of the Access Arrangement. The Extensions/Expansions Policy details the method to be applied to determine whether any extension to, or expansion of the capacity of, the AlintaGas network should or should not be treated as part of the AlintaGas network for the purposes of the Code, and how that will affect the Reference Tariffs.

The general provisions of the Extensions/Expansions Policy are as follows.

- Any extension or expansion which is part of, or directly connected with, an existing sub-network will be treated as part of the AlintaGas network for all purposes under the Code unless AlintaGas, with the prior consent of the Regulator, declares that a proposed extension or expansion that would otherwise become part of the AlintaGas network is to be an excluded extension. (Clauses 55 and 57 of the Access Arrangement)

- Any extension or expansion which is neither part of, nor directly connected with, an existing sub-network will not be treated as part of the AlintaGas network for any purpose under the Code, unless so determined by AlintaGas. Unless such a pipeline becomes a covered pipeline, access to it will be determined through negotiation between AlintaGas and the Prospective User. (Clause 56(1))

- An extension or expansion which is treated as part of the AlintaGas network will not affect Reference Tariffs for the remainder of the Access Arrangement period unless AlintaGas decides to trigger a review of the Access Arrangement at the time of the extension or expansion. (Clause 58(1))

- AlintaGas may from time to time impose a surcharge on, or seek a capital contribution from, users of the incremental capacity, where permitted by and subject to the Code. Where AlintaGas does not impose a surcharge or seek a capital contribution, users of the incremental capacity will pay the relevant Reference Tariff. (Clauses 58 (2)and 58(3))

- AlintaGas may from time to time allocated new facilities investment to the speculative investment fund, where permitted by and subject to the Code. (Clause 58(4))

4.7.3 Submissions from Interested Parties

- CMS Submission No 3

  The extensions/expansions policy should include a qualifier that any extension/expansion will meet financial and asset planning criteria applicable to a prudent Service Provider. This would ensure that AlintaGas, whose Access Arrangement proposes what is effectively a cost plus regime, does not boost up its capital expenditure to purely increase tariffs.

The Code makes explicit provision for planned Capital Expenditure to be consistent with that which would be undertaken by a prudent Service Provider. Section 8.16(a) of the Code states that, in the case of New Facilities Investment, the Capital Base may only be increased by an amount that would be invested by a prudent service provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of delivering services. The Regulator has assessed the planned capital expenditure proposed in the Access Arrangement against section 8.16(a) (Section 5.4 of this Draft Decision) and does not consider that an additional qualifier needs to be included in the Extensions/Expansion Policy.

4.7.4 Additional Considerations of the Regulator

Section 3.16 of the Code requires a Service Provider to provide a policy statement on whether an extension to, or expansion of, capacity will be treated as part of the covered pipeline, how the extension or expansion will affect Reference Tariffs and how any new facilities investment will be funded. In assessing the Extensions/Expansions Policy, the Regulator

gave specific consideration to the funding of new facilities investment and the mechanisms in place to ensure that such funding occurs in an efficient manner. The Regulator also gave attention to the levying of surcharges in relation to services for which AlintaGas has already built the cost of extensions into Reference Tariffs.

AlintaGas's Extensions/Expansions Policy and the roll-in test in the Code are the mechanisms through which AlintaGas can recover from new customers at least the incremental costs of serving these customers. AlintaGas's Extensions/Expansions Policy states that it will levy a surcharge (and make up the shortfall) whenever the additional revenue that a customer will pay to the distributor is lower than the additional costs that are to be incurred to supply that customer.

While the arrangements for levying surcharges are applicable to Reference Services A and B1, where the incremental costs of servicing each additional customer is considered on a case by case basis, the arrangements may not be applicable to Reference Services B2 and B3. For the latter services, AlintaGas has made allowance in Reference Tariffs for the recovery from each customer of costs associated with a meter and the first 20 metres of service pipe, both of which technically comprise extensions to the AlintaGas network. Consequently, the Extensions/Expansions Policy should specifically preclude the levying of a surcharge for a meter and the first 20 metres of service pipe (in respect of B2 and B3 customers).

The following amendment is required before the Access Arrangement will be approved.

Amendment 23 Clause 58 of the Access Arrangement should be amended to specifically exclude the levying of surcharges in respect of costs associated with constructing the first 20 metres of service pipe and providing a meter for the purposes of delivering gas to an end user under Reference Service B2 or B3.

4.8 REVIEW DATE

4.8.1 Access Code Requirements

Section 3.17 of the Code requires that an Access Arrangement include:

(a) a date upon which the Service Provider must submit revisions to the Access Arrangement (a revisions submission date); and

(b) a date upon which the next revisions to the Access Arrangement are intended to commence (a revisions commencement date).

In approving the revisions submission date and revisions commencement date, the Regulator must have regard to the objectives for Reference Tariffs and Reference Tariff Policy in section 8.1 of the Code, and may in making a decision on an Access Arrangement (or revisions to an Access Arrangement), if the Regulator considers it necessary having had regard to the objectives in section 8.1 of the Code:

(i) require an earlier or later revisions submission date and revisions commencement date than proposed by the Service Provider in its proposed Access Arrangement; and

(ii) require that specific major events be defined that trigger an obligation on the Service Provider to submit revisions prior to the revisions submission date.

Section 3.18 of the Code provides for an Access Arrangement Period to be of any length. However, if the Access Arrangement Period is more than five years, the Relevant Regulator must not approve the Access Arrangement without considering whether mechanisms should be included to address the risk of forecasts on which the terms of the Access Arrangement were based and approved proving incorrect. These mechanisms may include:

(a) requiring the Service Provider to submit revisions to the Access Arrangement prior to the revisions submission date if certain events occur, for example:

(i) if a Service Provider's profits derived from a covered pipeline are outside a specified range or if the value of Services reserved in contracts with Users are outside a specified range;

(ii) if the type or mix of Services provided by means of a covered pipeline changes in a certain way; or

(b) a Service Provider returning some or all revenue or profits in excess of a certain amount to Users, whether in the form of lower charges or some other form.

Where a mechanism is included in an Access Arrangement pursuant to section 3.18(a), the Relevant Regulator must investigate no less frequently than once every five years whether a review event identified in the mechanism has occurred.

4.8.2 Access Arrangement Proposal

Chapter 8 of the Access Arrangement specifies the date on which the Access Arrangement will commence and the date AlintaGas will submit revisions to the Regulator and the date AlintaGas intends those revisions to commence.

- AlintaGas proposes that the Access Arrangement commences on the later of 1 January 2000 or a date specified by the Regulator.

- AlintaGas will submit revisions to the Access Arrangement to the Regulator on or before 30 June 2004, with the revisions to commence on 1 January 2005.

4.8.3 Submissions from Interested Parties

Access Arrangement Period

- Western Power

  Western Power contends that a 5 year period for the inaugural Access Arrangement may be inappropriate because third parties have limited historical information to rely on when judging the veracity of the initial revenue, operating costs and new facilities investment forecasts used to derive Reference Tariffs. As a result, Western Power favours an initial Access Arrangement Period of 3 years which can be extended in subsequent periods.

AlintaGas has proposed an Access Arrangement Period of five years. However, the Access Arrangement was due to commence on the later of 1 January 2000 or a date specified by the

Regulator. Given that the 1 January 2000 has now passed, the commencement date will be that specified by the Regulator, ensuring that the Access Arrangement period is less than five years. The Regulator does not consider there to be any substantive reasons for reducing this period further.

4.8.4 Additional Considerations of the Regulator

The Regulator considered two matters in addition to those raised by public submissions: the timing of the revisions submission date, and trigger mechanisms for the Regulator to initiate a review of the Access Arrangement.

Revisions Submission Date

AlintaGas has proposed a revisions submission date of 30 June 2004, which is six months before the proposed revisions commencement date of 1 January 2005. In view of regulatory experience throughout Australia, the Regulator considers that a six-month period is inadequate for assessment of a proposed Access Arrangement and will require that the revisions submission date be bought forward to allow a 9-month period for assessment.

The following amendment is required before the Access Arrangement will be approved.

Amendment 24 Clause 60 of the Access Arrangement should be amended to provide for a revisions submission date of 31 March 2004.

Trigger Mechanisms

Section 2.28 of the Code allows a Service Provider to propose revisions to an Access Arrangement at any time during an Access Arrangement, with no restrictions placed on the Service Provider as to the reasons for proposing revisions. Whilst the Regulator does not have a corresponding power to seek revisions to an Access Arrangement at any time, section 3.17 of the Code does provide the Regulator with the ability to nominate in advance trigger mechanisms within the Access Arrangement, which can be used to initiate a review.

The Regulator considers that any changes in company or general taxation arrangements, including changes to the rate of corporate income tax and introduction of the GST, are appropriate trigger events for review of the Access Arrangement.

The Regulator also considers that the Access Arrangement should provide for a significant difference between forecast and actual values used in the determination of Reference Tariffs to trigger a review of the Access Arrangement. Under the price path methodology used by AlintaGas, Reference Tariffs are determined in advance for the Access Arrangement Period to follow a path that is forecast to deliver a revenue stream calculated consistently with the principles in section 8 of the Code, but not adjusted to account for subsequent events until the commencement of the next Access Arrangement Period. Given the implicit uncertainty involved in forecasting throughput over the Access Arrangement, the Regulator considers that a trigger mechanism based on actual throughput is appropriate, provided the trigger mechanism does not have an adverse effect on AlintaGas's incentives to increase network

usage. This consideration is consistent with recent Draft Decisions issued by the ACCC[14] and IPART,[15] both of which have required the respective Access Arrangements to be reviewed if, in any one year, the volume forecasts upon which Reference Tariffs are based are more than 25 percent inaccurate.

The following amendment is required before the Access Arrangement will be approved.

Amendment 25 Chapter 8 of the Access Arrangement (Review Date) should be amended to include trigger mechanisms enabling the Regulator, if the Regulator wishes, to initiate a review of the Access Arrangement in response to: – submission to the Regulator by AlintaGas of a change statement entailing an increase in Reference Tariffs; – changes to taxation arrangements affecting AlintaGas, including any change to the rates of the goods and services tax or corporate income tax; – increases in quantities of gas distributed above forecast increases by an amount of more than 50 percent of the forecast increases; and – a change in the provisions or administration of any Act or other law which, in the Regulator's opinion, necessitates a review of the Access Arrangement.

4.9 OTHER COMPONENTS OF THE ACCESS ARRANGEMENT

4.9.1 Access Code Requirements

Section 2.24 of the Code requires that an Access Arrangement contain the elements and satisfy the principles set out in sections 3.1 to 3.20 of the Code. An Access Arrangement may, however, address matters or provide information beyond the requirements of sections 3.1 to 3.20 of the Code.

The Regulator may not refuse to approve a proposed Access Arrangement solely for the reason that the proposed Access Arrangement does not address a matter that sections 3.1 to 3.20 do not require an Access Arrangement to address. However, should an Access Arrangement address matters in addition to the requirements of sections 3.1 to 3.20 of the Code, then the Regulator has broad discretion to refuse to accept the Access Arrangement if the additional matters are considered not reasonable. In assessing any additional matters included in an Access Arrangement, the Regulator may take into account the factors listed in section 2.24 of the Code:

(a) the Service Provider's legitimate business interests and investment in the covered pipeline;

[14] Draft Decision, Central West Pipeline (NSW).

[15] Draft Decision, AGL Gas Network (NSW).

(b) firm and binding contractual obligations of the Service Provider or other persons (or both) already using the covered pipeline;

(c) the operational and technical requirements necessary for the safe and reliable operation of the covered pipeline;

(d) the economically efficient operation of the covered pipeline;

(e) the public interest, including the public interest in having competition in markets (whether or not in Australia);

(f) the interests of Users and Prospective Users; and

(a) any other matters that the Relevant Regulator considers are relevant.

4.9.2 Access Arrangement Proposals

Chapter 9 of the Access Arrangement deals with two technical issues necessary for the integration of third party access to the AlintaGas network with third party access to the pipeline or pipelines used to supply gas into the AlintaGas network. The first issue is the use of a single receipt point for each interconnection between such a pipeline and a sub-network, and the second is the requirement that each User have a designated supplier.

4.9.3 Submissions from Interested Parties

Notice of Curtailment

- CMS Submission No 3

  Clause 63(3)(b)(i) should be amended to specify written notice of curtailment to interconnected pipelines. Such written notice should be provided to be consistent with other terms and conditions that provide written notice.

Clause 63(3)(b)(i) of the Access Arrangement provides for AlintaGas to be able to curtail the delivery of a quantity of gas to a User where supply from an interconnected pipeline has been curtailed. It is expected that in this situation the operators of the interconnected pipeline would have notified AlintaGas in order that it may curtail supply to affected Users.

However, where AlintaGas supplies gas to an interconnected pipeline, there would be a need for AlintaGas to notify the operator of that interconnected pipeline of any impending curtailment.

Since the provision of reasonable advance warning of curtailment is provided for in the Access Arrangement in respect of Reference Services (clause 22(2) of Schedule 7), a similar arrangement for relevant Non-Reference Services, such as an interconnected pipeline taking gas from the AlintaGas network, is justified.

The following amendment is required before the Access Arrangement will be approved.

Amendment 26

Clause 63(3) of Chapter 9 of the Access Arrangement should be amended to make provision for AlintaGas to provide reasonable advance warning of curtailment of supply from the AlintaGas network to an interconnected pipeline.

4.9.4 Additional Considerations of the Regulator

Designated Suppliers

Clause 63(1) of Chapter 9 of the Access Arrangement states that before a User may take delivery of a quantity of gas at a delivery point, the User must provide written evidence under clause 63(1)(a) or 63(1)(b) nominating the designated supplier of gas into the AlintaGas distribution network. Clause 63(2) provides that a written notice under clause 63(1)(a) or 63(1)(b) must contain such information as AlintaGas may reasonably require, from time to time. Since clause 63(2) makes provision for information to be requested in addition to that specified in the Access Arrangement, it is not possible for the Regulator to make an assessment on whether the information that would be requested is reasonable.

The Regulator appreciates that the additional information sought by AlintaGas is likely to be specific to a particular User and may vary from time to time. It is therefore considered difficult for AlintaGas to provide a complete list of the additional information that it is likely to require. If a dispute arises between AlintaGas and an existing User in relation to whether the information is reasonably required, it can be dealt with under the dispute resolution provisions provided for under Schedule 7 of the Access Arrangement for Reference Services, or any provisions negotiated by the User prior to entering the service agreement. Whilst the Regulator contends that this process provides protection for Users, the Regulator also considers that the information required by AlintaGas should be reasonable and consistent with the information that a prudent operator of the distribution network would require. This qualification to the information that may be required will provide the Arbitrator with an additional point of reference with which to assess any disputes on this issue.

The following amendment is required before the Access Arrangement will be approved.

Amendment 27

Clause 63(2) of Chapter 9 of the Access Arrangement should be amended to ensure that the additional information that AlintaGas may require from a User in respect of designated suppliers of gas to the network should be reasonable and consistent with the information that a prudent operator of the network would require. The Access Arrangement should also provide examples of the type of additional information that AlintaGas may require.

5 REFERENCE TARIFFS

5.1 INTRODUCTION

Section 3.3 of the Code requires that an Access Arrangement include a Reference Tariff for:

(a) at least one Service that is likely to be sought by a significant part of the market; and

(b) each Service that is likely to be sought by a significant part of the market and for which the Relevant Regulator considers a Reference Tariff should be included.

The principles used to determine Reference Tariffs are to be stated as a Reference Tariff Policy. Both the Reference Tariff Policy and the Reference Tariffs should be designed with a view to achieving the objectives set out in section 8.1 of the Code:

(a) providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service;

(b) replicating the outcome of a competitive market;

(c) ensuring the safe and reliable operation of the pipeline;

(d) not distorting investment decisions in pipeline transportation systems or in upstream and downstream industries;

(e) efficiency in the level and structure of the Reference Tariff; and

(f) providing an incentive to the Service Provider to reduce costs and to develop the market for Reference and other Services.

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

AlintaGas has proposed Reference Tariffs for the four Reference Services. In accordance with the principles established by the Code, AlintaGas used a price path methodology for the determination of Reference Tariffs. With this approach, Reference Tariffs are determined in advance for the Access Arrangement Period. The Reference Tariffs follow paths that are forecast to deliver a revenue stream sufficient to cover projected costs of providing the services.

The Code provides a general procedure for the application of the price path methodology to the determination of Reference Tariffs. The steps in this general procedure are:

- estimation of an Initial Capital Base;
- estimation of Capital Expenditure;
- estimation of Non-Capital Costs;

- estimation of an appropriate Rate of Return;
- specification of a Depreciation Schedule;
- determination of Total Revenue;
- determination of a cost/revenue allocation across services;
- determination of Reference Tariffs; and
- specification of Incentive Mechanisms.

This chapter provides an assessment of compliance of the proposed Reference Tariffs with the requirements of the Code. This is undertaken by examining the general methodology used by AlintaGas in determining Reference Tariffs and individual parameters of the related financial analysis, taking into account the requirements of the *Gas Pipelines Access (Western Australia) Act 1998*, requirements of the Code and submissions from interested parties.

5.2 METHODOLOGY USED TO DETERMINE REFERENCE TARIFFS

5.2.1 Access Code Requirements

Section 8.3 of the Code provides for the methodology for determination of Reference Tariffs to be at the discretion of the Service provider, subject to the Regulator being satisfied that the methodology is consistent with the objectives contained in section 8.1 of the Code. Notwithstanding this, section 8.3 of the Code suggests that Reference Tariffs may be determined by:

(a) a price path approach, whereby a series of Reference Tariffs are determined in advance for the Access Arrangement Period to follow a path that is forecast to deliver a revenue stream calculated consistently with the principles in section 8 of the Code, but is not adjusted to account for subsequent events until the commencement of the next Access Arrangement Period;

(b) a cost of service approach, whereby the Tariff is set on the basis of the anticipated costs of providing the Reference Service and is adjusted continuously in light of actual outcomes (such as sales volumes and actual costs) to ensure that the Tariff recovers the actual costs of providing the Service; or

(c) variations or combinations of these approaches.

5.2.2 Access Arrangement Proposal

AlintaGas has adopted a "price path" approach for the determination of Reference Tariffs and the changes in Reference Tariffs across the Access Arrangement Period.

5.2.3 Submissions from Interested Parties

No submissions were received that addressed the choice of a price path approach by AlintaGas for the determination of Reference Tariffs.

5.2.4 Additional Considerations of the Regulator

The Regulator recognises that the Code provides a Service Provider with discretion in determining the methodology used to determine Reference Tariffs, subject to the chosen methodology being consistent with the objectives of Section 8.1 of the Code. The adoption by AlintaGas of a price path methodology is consistent with these requirements.

5.3 INITIAL CAPITAL BASE

5.3.1 Access Code Requirements

As part of an assessment of the first Access Arrangement for an existing covered pipeline the Regulator is required by the Code to approve a value of the assets making up the pipeline (an Initial Capital Base). The Initial Capital Base is then treated under the Code as a historical cost that is carried forward to future regulatory periods by adjusting for depreciation, new capital expenditure and, where appropriate, redundant assets.

Sections 8.10 and 8.11 of the Code state the principles for establishing the Initial Capital Base. These principles apply to the Access Arrangement for the Mid-West and South-West Gas Distribution Systems.

Section 8.10 of the Code requires that a range of factors be considered in establishing the Initial Capital Base. These factors are described in more detail below, but relate generally to comparative analysis of different valuation techniques and the consideration of reasonable expectations of interested parties.

Section 8.11 of the Code states that the Initial Capital Base for covered pipelines that were in existence at the commencement of the Code normally should not fall outside the range bounded by the Depreciated Actual Cost (DAC)[16] of pipeline assets and a Depreciated Optimised Replacement Cost (DORC) for the assets.

5.3.2 Access Arrangement Proposal

AlintaGas's determination of the Initial Capital Base of the distribution systems is described in section 3 of the Access Arrangement Information.

In deriving a value for the Capital Base, AlintaGas considered DAC and DORC values of distribution system assets.

A DAC value was estimated at $299.7 million, as at 30 June 1998. At the instigation of AlintaGas, this value was audited by the Western Australian Auditor General with the conclusion that it presents fairly the written down historical value of the assets.

[16] The term "Depreciated Actual Cost" is here given the meaning of section 8.10(a) of the Code as "the value that would result from taking the actual capital cost of the covered pipeline and subtracting the accumulated depreciation for those assets charged to Users (or thought to have been charged to Users) prior to the commencement of the Code".

The value derived by a DORC methodology was estimated as $707 million as at 31 December 1998. This value was based on:

- an estimated Optimised Replacement Cost of network assets as at 30 June 1998 of $1,001.4 million and a DORC of $685.4 million derived by straight line depreciation of network assets over the technical lives of the assets;
- a valuation of non-network assets as at 30 June 1998 of $22.7 million;
- Capital Expenditure in the period 1 July 1998 to 31 December 1998 of $12.1 million; and
- depreciation for the period 1 July 1998 to 31 December 1998 of $13.2 million.

In proposing an Initial Capital Base, AlintaGas argue that a DORC value has in-principle advantages of:

- providing "correct" signals for new facilities investment;
- enabling the effects of technological change, and of asset redundancy as a result of changes in gas demand, to be reflected in asset values and Reference Tariffs; and
- reducing the likelihood of economically inefficient investment decisions in upstream and downstream industries through basing Reference Tariffs on the "economic cost" of providing gas transportation services.

Notwithstanding the argued advantages of a DORC valuation of the Capital Base, AlintaGas indicated that a DORC valuation is inappropriate as it would result in Reference Tariffs that exceed the current gas transportation costs that are implicit in AlintaGas's current retail prices for gas, and hence potentially give rise to increased prices for gas delivered via the AlintaGas network.

AlintaGas has proposed that an acceptable Initial Capital Base would be one that is based nominally on the DORC values of different asset categories, but with reductions in these values such that the resulting Reference Tariffs would be consistent with an acceptable Reference Tariff outcome for consumers of gas via the AlintaGas network. The criterion of "acceptability" was taken to be a requirement that the Reference Tariffs resulting from a valuation of the Initial Capital Base should be consistent with retail gas prices expected to prevail in the market during the Access Arrangement Period.

To derive an Initial Capital Base, AlintaGas therefore reduced DORC values of each category of assets to levels that purportedly return the same retail prices for gas as currently exist. This valuation is inextricably linked to the methodology used to determine a schedule of Reference Tariffs and the associated assumptions as to the rate of return, and allocation of costs across services. Furthermore, the valuation is dependent upon the assumptions as to costs and margins, other than the costs of gas distribution, that underlie retail gas prices.

The methodology used by AlintaGas to derive an Initial Capital Base is not described in any detail in the Access Arrangement Information. Modelling by the Regulator indicates the methodology used by AlintaGas is consistent with the following steps.

- Develop forecasts over the four-year period 2000 to 2003 for sales volumes and average retail prices for gas supplied from the AlintaGas network for each of the classes of

customers corresponding to each Reference Service, and calculate forecasts of gross retail revenues for each Reference Service.

- Develop forecasts over the period 2000 to 2003 for the cost of gas, gas transmission costs, retail costs and retail margins for each of the classes of customers corresponding to each Reference Service, and subtract these costs and margins from the gross retail revenues to leave residual amounts that are the implicit distribution revenues for each Reference Service.

- Calculate the present value of the distribution revenues for each service over the period 2000 to 2003.

- Determine an Initial Capital Base (and values of the various asset classes) that will return the same present value for the target Total Revenue for each service, taking into account forecasts of Non-Capital Costs, Capital Expenditure, depreciation and return on capital.

The total value of the Initial Capital Base derived by AlintaGas is $530.3 million as at 31 December 1998 and is referred to by AlintaGas as a deprival value on the basis that this is the Initial Capital Base that is necessary to maintain forecast revenue. The corresponding current cost accounting value of the Initial Capital Base as at 31 December 1999, taking into account Capital Expenditure and depreciation in 1999, is $539.4 million. The values proposed by AlintaGas for particular asset categories are indicated below, together with DORC values and the percentage of the DORC value of each category of assets.

In order to meet the criterion that the values ascribed to particular classes of assets must return a schedule of Reference Tariffs that would be consistent with retail gas prices expected to prevail in the market during the Access Arrangement Period, the reductions in DORC values were not uniform across asset classes. Relatively larger reductions were applied to classes of assets used predominantly to deliver gas to residential and small business consumers. The greatest proportional reduction occurred with "meters and service pipes", "medium/low pressure mains" and "low pressure mains". These assets are used predominantly to service residential and small-business consumers of gas and the reductions were undertaken to avoid increases in the cost of gas to these consumers.

AlintaGas proposed Initial Capital Base

Asset Class	DORC[a] ($million)	Proposed Regulatory Value ($million)	Percent of DORC[b] Value
Mains:			
High pressure	152.2	142.7	93.8
Medium pressure	206.6	169.8	82.2
Medium low pressure	118.4	96.8	81.8
Low pressure	34.6	28.0	80.9
Secondary gate stations	2.2	2.0	90.9
Regulators	9.0	8.9	98.9
Meters and service pipes	160.2	60.8	38.0
Telemetry and monitoring systems	1.1	1.0	90.9
Non network assets	22.7	20.3	89.4
Total	707.0	530.3	75.0

a. Non-network assets were not valued at DORC, but rather a range of valuation methodologies were used as described in the Access Arrangement Information (pp 22,23).

b. Calculated percentage reductions are approximate as no account is taken of distribution of depreciation and capital expenditure across classes of assets in the period 1 July 1998 to 31 December 1998. The error is, however, negligible as the values of depreciation and capital expenditure were small relative to the total asset values.

5.3.3 Submissions from Interested Parties

Valuation Methodologies

- Western Power

  AlintaGas assessed the initial capital valuation at $530 million through applying the deprival method of valuation, which is consistent with the National Code. This value appeared to be arrived at by setting initial prices at a level consistent with Users expectations. To the extent that initial prices avoid creating significant rate shocks and align with Users' expectations based on previous pricing arrangements, the valuation of $530 million appears to be reasonable.

  Users also expect that the valuation will not result in the gas distribution business earning excessive profits. In this regard, Western Power urges OffGAR to examine appropriate financial indicators to ascertain whether the valuation of $530 million produces sufficient revenue to ensure the future viability of the gas network without creating windfall gains through setting tariff prices higher than is consistent with producing efficient pricing levels.

In considering the approach used by AlintaGas to value the Initial Capital Base, the Regulator assessed both the reasonableness of an approach based on returning AlintaGas the same distribution revenues as may be expected in the absence of the Access Arrangement, and the impact of particular valuations of the Initial Capital Base on the financial status of the AlintaGas distribution business as evident from modelling of financial indicators. These assessments are described below under "Additional Considerations of the Regulator". In view of these and other considerations, the Regulator accepts the general methodology of

AlintaGas for valuing the Initial Capital Base. However, the Regulator disagreed with some of the assumptions made by AlintaGas in Applying the methodology. As a result, the Regulator will require an amendment of the value of the Initial Capital Base from that proposed by AlintaGas.

- Office of Energy

  AlintaGas has not presented the full set of methodology and assumptions used to arrive at the asset values presented in Table 3.3 of the Access Arrangement Information. The Office of Energy has been unable therefore to conclude that the deprival value approach has been appropriately applied.

  The Office of Energy considers that AlintaGas has not demonstrated it has applied consistently the deprival value methodology in valuing the AlintaGas distribution network capital base. Although the Office of Energy acknowledges that the capital base value resulting from a systematic analysis using the deprival value method may not be different from the value determined by AlintaGas, it is still preferable for the capital base value, and the components of it which reflect in each Reference Tariff, to be supported by applying a consistent set of principles in their determination. The Office of Energy also acknowledges that information on the basis of which the deprival value is calculated may be sensitive. Therefore, it is considered that the Regulator should verify the application of the selected method and confirm the capital base value resulting from that application.

  The Regulator would need to be satisfied that AlintaGas has provided enough information to allow third parties to understand the derivation of the deprival values for the capital base which are used as the basis to determine the final tariff structure.

  The Regulator would also need to be satisfied of the reasonableness of the retail prices expected to prevail in the market during the period of the Access Arrangement. These are a key factor used in establishing what AlintaGas considers is the deprival value.

The Regulator's assessment of the deprival value methodology used by AlintaGas to value the Initial Capital Base is described below under "Additional Considerations of the Regulator".

While the valuation methodology used by AlintaGas is not consistent with conventional definitions of a deprival value, there is a general similarity. Differences with a value derived by a more conventional deprival value methodology would be largely speculative. The Regulator is therefore prepared to accept the valuation methodology used by AlintaGas as producing a value that is generally indicative of a deprival value.

The valuation methodology used by AlintaGas involved estimating the revenues from gas distribution that are implicit in forecasts of retail revenues for the period 2000 to 2003. This estimation involved assumptions as to the retail gas prices, costs of gas, transmission costs, retail costs and retail margins. The Regulator assessed the reasonableness of these assumptions and made revisions to assumptions as to retail margins. These revisions led to a lower estimate of distribution revenue than proposed by AlintaGas and, in turn, to a lower value being placed on the Initial Capital Base.

- Australian Energy Advisors

  If AlintaGas proposes to provide a subsidy to smaller customers, the question arises as to how much of that subsidy is to be provided by AlintaGas Retail and how much by AlintaGas network operator. In reviewing the revenue targets available from each customer group, AlintaGas had information only on the total revenue from a bundle of services comprising the purchase of gas in the field, transportation by pipeline, delivery through the distribution network, metering, provision of retail services and specific other services, and profit mark-up. How was the anticipated subsidy split across all those functions, or was it all picked up by the distribution network? If so, why? Was the cost of the pipeline delivered gas supplies streamed

between customers before the distribution costs were considered? What margin was set as being appropriate for the actual retail sale of the gas before the cost and profit margin of the Network Distribution was calculated? Was the margin equal across all customer groups?

The methodology used by AlintaGas to assign a deprival value to the Initial Capital Base involved estimating the gas-distribution revenues that are implicit in total revenues to AlintaGas from retail gas sales. This estimation involved making of assumptions as to retail prices of gas, gas costs, transmission costs, retail costs and retail margins. The Regulator assessed the reasonableness of these assumptions and made revisions to assumptions as to retail margins.

AlintaGas assumed declining retail margins over the period 2000 to 2003. The Regulator regarded the assumptions as to declining retail margins, and the implicit assumptions of a transfer of revenue from the retail business to the distribution business of AlintaGas, as unreasonable. The Regulator revised these assumptions to provide for an overall net retail margin, and net retail margins for each service, of two percent of retail revenues. The revised assumptions as to retail margins result in a reduction in estimated distribution revenue and a lower value of the Initial Capital Base than proposed by AlintaGas.

- North West Shelf Gas

  There has been divided opinion on the appropriateness of Depreciated Optimised Replacement Cost (DORC) valuation methodology. There has been concern that the economic theory does not produce a reasonable and/or acceptable competitive tariff. For example, it has been argued that abnormal historical returns may have adequately compensated for the economic costs of the infrastructure and the continued use of replacement cost in markets with limited competition or where natural monopolies exist in fact sustains high and non-competitive tariffs. In other words, incumbents are able to 'double dip' economic value.

  We believe that these abnormal historical returns were derived from factors such as:

  – using inappropriately high discount rates to determine the original tariffs;

  – assets having far outlived their originally estimated economic life;

  – assets have outperformed their initial design specification;

  – assets were built with uneconomic excess capacity which continues to ward off the threat of new competition.

  We believe AlintaGas's access arrangement proposal confirms the concerns held by the users of onshore gas transmission pipelines and onshore gas distribution assets and we would encourage OffGAR to ensure they note this for future determinations. That is, AlintaGas has found that the tariff derived by using the DORC method would render their transportation tariff non-competitive and have settled for an asset valuation somewhere in between DORC and depreciated value. This would seem to be consistent with the realities of a competitive market place where the pricing point is never a precise formula driven number but rather, a market driven price, sitting somewhere in between the short term marginal cost and the long run economic average cost as determined by the mechanisms such as DORC.

  Indeed the rather circular method for determining the asset value proposed by KPMG would suggest that had they used a lower WACC estimate of 7% real, that at the proposed tariff levels, the resultant asset value would have been higher than the $530.3 million stated but still less than the estimate based on DORC.

- Australian Energy Advisors

  If, to establish the Reference Tariffs, the values of the assets have been adjusted downward to an extent "just sufficient to achieve estimates of prices in the retail market consistent with the level of prices expected to prevail in that market during the period of the Access Arrangement" (Section 3.1.3 of the Access

Arrangement Information), then the tariff setting process would seem to have been isolated from the WACC calculation.

Presumably, if the WACC figure is reduced to close to 6%, as we have suggested above, and therefore the revenue accruing from capital charges is reduced, then AlintaGas would wish to recalculate the Deprival Values to retain the same target revenue. The significance of any assessment of required return on assets has been lost as soon as revenue targets derived by another means are accepted.

The Regulator's assessment of the advantages and disadvantages of a DORC valuation of the Initial Capital Base is described below under "Additional Considerations of the Regulator." The conclusion from this assessment is that while there are strong arguments for a DORC value to be an upper bound on the Initial Capital Base, these arguments do not support use of a DORC value over some value of less than DORC.

In determining an appropriate Initial Capital Base for the AlintaGas distribution systems, the Regulator considered a balance of interests of AlintaGas and Users. In doing so, the Regulator accepted the general methodology used by AlintaGas for valuation of the Initial Capital Base. This value is based on setting a value for the Initial Capital Base such that distribution revenues are maintained at similar levels to those forecast in the absence of the Access Arrangement. The value is dependent not only on the forecast distribution revenues, but also assumptions as capital costs, non-capital costs, depreciation and the rate of return. The methodology used to value the Initial Capital Base involved setting values of these parameters and solving for an Initial Capital Base so as to return a predetermined level of distribution revenue. Lower costs of providing distribution services, or a lower rate of return, would result in a higher value being ascribed to the Initial Capital Base.

Asset Lives and Asset Value

- Office of Energy

  The Office of Energy considers that more justification is needed for the assumption made in the Access Arrangement Information that the technical life is equivalent to the economic life of the assets making up the distribution network. This is relevant in the context of the (argued) risk factors such as bypass, which is more likely to occur on high pressure distribution assets serving larger customers, which have the longest technical asset life, but these factors would otherwise alter the determination of the economic asset life.

  The economic asset life for establishing the Initial Capital Base of the existing distribution network becomes more important with the age of the assets. With a longer asset life assumed, the value of the Initial Capital Base increases for the same level of depreciated life. For the cost of service tariff determination methodology and the rate of return used, the resultant tariffs would be higher with longer asset lives.

Estimates of asset lives were used in deriving a DORC value for assets of the distribution systems and in specifying depreciation costs. AlintaGas assumed asset lives equal to technical lives of assets, which may in some circumstances be longer than economic lives. The Regulator received expert advice on the assumed technical lives and on the basis of this advice accepts the assumed technical lives as reasonable.

In general, longer asset lives for assets will give rise to a higher DORC value of assets, but lower annual depreciation costs. For the AlintaGas distribution systems, a DORC valuation of assets was not used to assign a value to the Initial Capital Base, although DORC valuations of particular classes of assets were used as a starting point for establishing values for asset classes that sum to the total value of the Initial Capital Base. Hence asset lives were not an important consideration in determining the Initial Capital Base. In regard to depreciation, assumptions of long asset lives will tend to reduce costs of service provision and hence

distribution tariffs. In view of this, and the absence of any reason to assume economic lives of assets of less than technical lives, the Regulator accepts the asset lives proposed by AlintaGas.

Implicit Cross Subsidies Across Services

- Australian Energy Advisors

  Non-uniform reductions in values of different asset categories will institutionalise a cross subsidy from large customers to smaller ones, which does not permit the efficient allocation of resources in the future. If there are to be subsidies, they are better handled in a more overt fashion, rather than hidden within the detail of an artificial asset revaluation.

  We do not consider it appropriate for O*ff*GAR to be called upon to authorise a cross-subsidy between two groups of Network customers; neither do we consider it appropriate for a Network Operator to institute such a pricing schedule. The purpose of open access regulation for gas pipeline and distribution infrastructure is to enable the gas markets to function more efficiently by allowing an increased number of producers to interact with an increased number of retailers and direct customers. It is inappropriate to have the gas market distorted by the imposition of a non-neutral distribution tariff.

  If AlintaGas proposes to provide a subsidy to smaller customers, the question arises as to how much of that subsidy is to be provided by AlintaGas Retail, and how much by the AlintaGas network operator. In reviewing the revenue targets available from each customer group, AlintaGas had information only on the total revenue from a bundle of services comprising the purchase of gas in the field, transportation by pipeline, delivery through the distribution network, metering, provision of retail services and specific other services, and profit mark-up. How was the anticipated subsidy split across all those functions, or was it all picked up by the distribution Network? If so, why? Was the cost of the pipeline delivered gas supplies streamed between customers, before the distribution costs were considered? What margin was set as being appropriate for the actual retail sale of the gas, before the cost and profit margin of the Network Distribution was calculated. Was the margin equal across all customer groups?

  Our view is that any subsidy of consumer groups is a matter for Governments, not for Gas Retailers, or Gas Network Operators or Gas Regulators. If the Government of Western Australia wants a subsidy of gas prices to small consumers, let it be provided in an overt fashion, independent of any Network regulation. If the Government is concerned about the "shock" of a major redistribution of delivered gas costs from large customers to small customers, let it provide for a "glide path" of price movement over the period of the Access Arrangement.

  We would suggest accepting the proposition of a lower valued asset base, but requiring that, if any cross-subsidy is considered necessary by the Government, it be implemented in another fashion.

A large part of the costs for gas distribution services comprises capital costs associated with sunk capital investment. These costs generally cannot be directly attributed to particular services or Users according to the use of assets, as may be implied by a fully distributed cost model of cost allocation. Any such allocation is typically arbitrary or at best reflects some form of equity criterion for the sharing of common costs across Users on the basis of the nature and extent of each User's use of system assets. Departures from such a cost allocation model do not necessarily constitute cross subsidies.

As indicated in a recent draft decision by IPART, the economic test of a cross subsidy is market based, rather than an accounting test.[17] Several tests may indicate a cross subsidy. A customer may be cross subsidising others if the price paid by that customer exceeds the stand

[17] IPART, Draft Decision on the AGL Gas Network Limited Natural Gas System in NSW (October 1999).

alone cost and a new service provider would find it attractive to enter the market and serve the customer. Alternatively, a customer may be cross subsidised if the price being paid is less than the incremental or avoidable cost of providing the service to that customer. In practice, there can be a wide band between stand alone and incremental costs and hence there is a wide range of "cross subsidy free" prices.

The capital costs arising from sunk investment in a distribution network do not form part of the avoidable costs of providing services. As such the allocation of these costs does not have any bearing on possible cross subsidies between services or Users. Notwithstanding this, there are efficiency and equity criteria to be considered in allocating capital costs arising from sunk investment. These criteria are considered in sections 5.9 and 0 of this Draft Decision.

5.3.4 Additional Considerations of the Regulator

Asset Valuation And Economic Principles

Section 8.1 of the Code sets out objectives for the setting of Reference Tariffs:

(a) providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service;

(b) replicating the outcome of a competitive market;

(c) ensuring the safe and reliable operation of the pipeline;

(d) not distorting investment decisions in pipeline transportation systems or in upstream and downstream industries;

(e) efficiency in the level and structure of the Reference Tariff; and

(f) providing an incentive to the Service Provider to reduce costs and to develop the market for Reference and other Services.

The Reference Tariff objectives specified in section 8.1 of the Code would be achieved if economic efficiency of resource allocation is a primary consideration in the setting of Reference Tariffs. Efficient tariffs or prices are those that provide signals that motivate an efficient or wealth-maximising allocation of resources to the provision of gas transportation services, and more generally in the economy.

The simplest concept of efficient pricing is that of short-run marginal-cost pricing where an additional unit of output is priced equal to the incremental or marginal costs of production. In this situation, price motivates supply of additional units of a good or service as long as the value placed on the additional units of the good or service exceeds the value of any alternative goods or services for which the resources may be utilised.

For production processes where inputs to production are entirely or predominantly variable with respect to the level of output, short-run marginal-cost pricing is approximately consistent with efficiency in attraction of resources to the production process over the longer term. However, for production processes where inputs to production are predominantly fixed with respect to the level of output, marginal cost pricing would not provide the producing

firm with sufficient revenue to meet the costs of these fixed inputs over the longer term. In addition to covering marginal costs of production, efficient prices must also provide for a return to longer-term capital investment in the production process.

The consequence for the regulation of prices of a pipeline owner is that prices should be sufficiently high to assure investors of adequate returns to capital investment and thereby motivate an adequate (i.e. dynamically efficient) level of investment over the longer term. This is despite the fact that in any short term period prices will typically exceed the marginal costs of providing the relevant service.

In practice, the determination of efficient prices can be difficult. The simplest situation for determination of prices is with a new pipeline where prices must be established at a sufficiently high level to motivate an initial level of investment.

Estimation of efficient prices is more complex for an existing pipeline. Continued production of pipeline services will require that prices be at least at a level that provides a return to past capital investment that is sufficient to prevent the fixed inputs being diverted to alternative uses.

As the valuation of existing assets under the Code is independent of the valuation of new assets, it would in-principle be possible to value existing assets at scrap value and not affect the incentive for ongoing provision of the service and for new investment. However, valuation of pipeline assets at scrap values would result in low returns to capital that may discourage new investment in pipelines. A more reasonable lower bound is to provide for prices to provide a return to the initial investment that would have been sufficient to motivate that investment at the time it occurred. This is the rationale for the lower bound value of the Initial Capital Base specified in section 8.11 of the Code, amounting to a DAC valuation.

As an upper bound, prices should not be at a level that motivates excessive investment in pipelines resulting in duplication of infrastructure and substantial under-utilisation of capacity. Prices also should not be so high that users would be better off if the existing assets were scrapped and replaced with new assets. This is the rationale for the upper bound value of the Initial Capital Base specified in section 8.11 of the Code, being a DORC valuation.

An unambiguous economic determination of efficient prices must take into account requirements for future investment in pipelines and the effects of current regulated prices on the expectations of investors in respect of returns to future investment. While, in principle, the method that is used to value existing assets won't affect future investment, it is likely the Regulator's decisions in relation to existing assets will influence expectations about how the Regulator will exercise discretionary powers of asset valuation in the future. Accordingly, an unduly hash treatment of existing assets may create an expectation that a similar stance may be taken on other matters in the future after new investment has become "sunk" and so may deter new investment. Accordingly, the achievement of dynamic efficiency would appear to require the Regulator to take account of reasonable expectations of asset owners, and strive for a decision that provides for a reasonable balance of interests between the Service Provider and Users.

With uncertain knowledge of future investment requirements and inability to precisely model expectations and investment decisions, such an economic determination is not possible. Consequently, determination of an Initial Capital Base between the bounds of DAC and DORC is largely a matter of judgement. The factors listed for consideration by the Regulator

in section 8.10 of the Code are intended to serve as a guide to the Regulator in making this judgement, in addition to the more general principles for setting of Reference Tariffs set out in section 8.1 of the Code.

Factors that the Code Requires to be Considered

The Code requires that the Regulator, in determining the Initial Capital Base, give consideration to the factors set down in sections 8.10(a) to 8.10(k) of the Code. Discussion of these factors in relation to the AlintaGas determination of the Initial Capital Base is undertaken below.

(a) The value that would result from taking the actual capital cost of the covered pipeline and subtracting the accumulated depreciation for those assets charged to Users (or thought to have been charged to Users) prior to the commencement of the Code (Code section 8.10(a)).

The value that would result from taking the actual capital cost of the covered pipeline and subtracting the accumulated depreciation for those assets charged to Users is, for the purposes of this Draft Decision, referred to as a Depreciated Actual Cost (DAC).

AlintaGas has indicated the DAC value of the distribution-system assets to be $299.7 million as at 30 June 1998 (section 3.1.1 of the Access Arrangement Information). No breakdown of this value into asset categories was provided.

Information was not provided to the Regulator on the derivation of the DAC value. However, AlintaGas provided the Regulator with an audit report from the Western Australian Auditor General presenting an audit opinion that the nominated value presents fairly the written down historical value of the distribution assets. The value is believed to be the current book value of relevant distribution system assets transferred to AlintaGas from the previous State Energy Commission of Western Australia in 1995.

No additional evaluation of the proposed DAC value was undertaken by the Regulator.

(b) The value that would result from applying the Depreciated Optimised Replacement Cost methodology in valuing the covered pipeline (Code section 8.10(b)).

AlintaGas has indicated a valuation of the Capital Base derived from a DORC methodology to be $707 million as at 31 December 1998 (section 3.1.2 of the Access Arrangement Information). The valuation was based on:

- an estimated Optimised Replacement Cost of network assets as at 30 June 1998 of $1,001.4 million and a DORC of $685.4 million derived by straight line depreciation of network assets over the technical lives of the assets;
- a valuation of non-network assets as at 30 June 1998 of $22.7 million;
- Capital Expenditure in the period 1 July 1998 to 31 December 1998 of $12.1 million; and
- depreciation for the period 1 July 1998 to 31 December 1998 of $13.2 million.

A summary of replacement costs, optimised replacement costs, asset lives and DORC values for pipeline assets is as follows.

DORC value of AlintaGas distribution system assets

Category of Asset	Replacement cost ($million)	Optimised replacement cost[a] ($million)	Asset life (years)	Average remaining asset life (years)	DORC[a] ($million)
Mains:					
High pressure	192.6	172.2	120	97	153.2
Medium pressure	275.4	242.6	60	50	206.6
Medium low pressure	175.8	172.3	60	41	118.4
Low pressure	61.8	61.8	60	41	34.6
Secondary gate stations	3.8	3.4	40	26	2.2
Regulators	26.4	11.9	40	40	9.0
Meters and service pipes	335.0	335.0	25[b]	10[c] 14[d]	160.2
Telemetry and monitoring	2.1	2.1	10	5	1.1
Sub-Total	**1,072.9**	**1,001.4**	**–**	**–**	**685.4**
Non network assets[e]	–	–	–		22.7
Total as at 30 June 1998					**708.1**
Capital expenditure 30 June 1998 to 31 Dec 1998					12.1
1998 Depreciation					13.2
Total as at 31 Dec 1998					**707.0**

a. Non-network assets were not valued at DORC, but rather a range of valuation methodologies were used as described in the Access Arrangement Information (pp 22,23)
b. Asset life applies to meters only.
c. Residential meters.
d. Commercial meters.
e. An undepreciated value of non-network assets was not provided in the Access Arrangement Information.

AlintaGas provided the Regulator with supporting documentation on the DORC valuation in the form of a valuation report by Gutteridge Haskins and Davey Pty Ltd (GHD). This report documents the DORC valuation of network assets.

The Regulator had the GHD report reviewed by Connell Wagner Pty Ltd (Connell Wagner) for the purposes of identifying any manifest errors, omissions or inadequacies in the methodology or assumptions used in the DORC valuation. The review did not involve the verification of modelling and calculations underlying the valuation.

Connell Wagner identified several aspects of the DORC valuation which affect the reliance that can be placed on the estimated DORC value. These aspects were as follows.

- The optimisation of assets appears to have primarily involved the downsizing of mains and reductions in the lengths of mains. No attention appears to have been given to assess alternative approaches to engineering standards currently adopted by AlintaGas. Also, no evidence is provided to indicate an attempt to optimise the diameters and costs of pipes based on optimum pressures for the system.

- The asset list for optimised assets includes low pressure and medium/low pressure mains, which appears to contradict an assumption that an optimised system would only operate on medium and high pressures. The replacement cost of low pressure mains is equal to the optimised replacement cost, which may indicate that these lines were not optimised. The replacement cost of the medium–low pressure mains differs by less than 2 percent of its optimised replacement cost, which may indicate that only a small part of this system was optimised.

- The optimisation of assets makes allowances for projected throughput growth over the next five years. The growth projections have not been substantiated.

- The unit rates for high pressure mains (in dollars per unit length of pipe) appear higher than would be expected on the basis of comparison with unit rates used in estimation of optimised replacement costs for other pipelines.

- The unit rate for domestic services/meters, although comparable with unit rates used in estimation of optimised replacement costs for other pipelines, is substantially higher than the unit rate used by AlintaGas for capital expenditure budgeting purposes. There is an inconsistency in this. This variation could amount to $132 million in the optimised replacement cost and $53 million in the DORC.

- No substantiation is provided for assumptions as to diversified load values used in system optimisation, in particular the loads (in m^3/hour) assumed for residential and small commercial customers respectively. These are critical assumptions affecting the design and cost of the system.

- Temperature impacts on system optimisation were not taken into account.

- Linepack was not considered in modelling.

- A static rather than dynamic model was used in system optimisation.

In addition to the potential variations in the determination of the DORC value identified by Connell Wagner, the Regulator identified the inclusion of some user specific assets in the valuation of meters and service pipes with a DORC valuation of $12.8 million. These assets do not comprise part of the covered pipeline and should not be included in the Initial Capital Base.

In summary, the Regulator considers that there are several areas of technical concern with the DORC valuation proposed by AlintaGas. The potential variations result in an estimated valuation uncertainty in the order of $200 million in the optimised replacement cost, mainly arising from the manifest inconsistency in the valuation of domestic services/meters, and a possible further variation of approximately $12 million arising from inclusion of user specific assets that are not part of the covered pipeline. As a consequence, the Regulator considers that the DORC value proposed by AlintaGas may be overstated by an amount up to approximately $85 million. In the absence of further information on a DORC valuation from AlintaGas, the DORC value is taken to be in the range of $620 million to $707.0 million for the purposes of this Draft Decision.

(c) The value that would result from applying other well recognised asset valuation methodologies in valuing the covered pipeline (Code section 8.10(c)).

AlintaGas has proposed an Initial Capital Base value of $530.3 million (as at 31 December 1998 and corresponding to a value of $539.4 million as at 31 December 1999). The value so obtained is referred to by AlintaGas as a deprival value.

A general definition of deprival value is the value of an asset to the owner calculated in terms of the loss that would be incurred by the owner if deprived of the asset and is the lesser of the replacement cost of the asset and the net present value of cash flows generated by use of the asset. An *optimised* deprival value is defined as the lesser of the optimised replacement cost of the asset and the valuation of the asset in terms of the net present value of financial returns to the asset (on a cash flow basis). This definition is consistent with Bonbright's "value to the owner" which is the lesser of the current replacement cost (arguably the optimised replacement cost value) and the income generating capacity of the asset.[18]

The asset value presented by AlintaGas as a deprival value was calculated by determining an Initial Capital Base that is consistent with maintaining AlintaGas's projected revenue from the distribution systems over the period 2000 to 2003, given assumptions as to other costs and margins underlying the retail price of gas. While the valuation methodology used by AlintaGas is not entirely consistent with the above definition of a deprival value there is a general similarity. The methodology used by AlintaGas has the shortcoming of not explicitly considering the value of cash flows beyond four years into the future, thus implicitly assuming that the drivers of cash flows for the four-year period extend unchanged into the future. This may not be the case. However, given the uncertainties of longer term cash flows, differences with a value derived by a more conventional deprival value methodology would be largely speculative.

The Regulator is therefore prepared to accept the valuation methodology used by AlintaGas as producing a value that is generally indicative of a deprival value. Notwithstanding this, however, the Regulator had some concerns with the assumptions underlying AlintaGas's valuation. These assumptions related to the estimation of distribution revenues that are implicit in the total revenues of AlintaGas, and to the forecasts of costs over the Access Arrangement Period (Capital Expenditure, Non-Capital Costs, depreciation and a return to capital) that also underlie the proposed deprival value.

AlintaGas estimated future distribution revenue on the basis of assumptions as to retail prices for gas sales under each proposed Reference Service, gas volumes distributed for each Reference Service, gas costs, gas transmission costs, retail costs and retail margins. AlintaGas has indicated that these values were estimated by the distribution business of AlintaGas rather than being obtained from the retail business. The Regulator independently assessed the reasonableness of the assumptions on the basis of information provided by AlintaGas on the derivation of assumptions, and on the basis of additional corporate financial information provided by AlintaGas on a confidential basis.

[18] Bonbright, J.C., 1937. T*he Valuation of Property*, The Mitchie Company.

- Retail gas prices.

  AlintaGas provided information to the Regulator (in addition to that provided in the Access Arrangement Information) indicating that average retail prices were estimated by different methodologies for the "pre-contestability" and "post-contestability" periods.[19]

  – AlintaGas indicated that pre-contestability average retail prices for Reference Services A and B1 were estimated from AlintaGas's budgeted retail revenues aggregated by existing retail marketing categories and divided by volumes. The revenues and volumes were adjusted to reflect the tariff classes under the proposed Access Arrangement, with these adjustments being based in part on the judgements of AlintaGas Distribution and relevant corporate staff.

  – Pre-contestability prices for Reference Services B2 and B3 were estimated on the basis of current regulated retail prices for gas in these markets,[20] and annual increases in these regulated prices by one half of the rate of increase in the CPI.

  – Post-contestability retail prices for all services were estimated as total retail costs incurred in supplying customers supplied using each Reference Service plus an assumed post-contestability retail margin. Total retail costs were estimated as the sum of cost of retail operations, average distribution cost, average transmission cost and average gas cost.

  The methodology purportedly used by AlintaGas to estimate retail prices in the post-contestability period is ambiguous. The purpose of estimating retail prices is to derive an estimate of distribution cost/revenue as the residual of the retail revenue minus all other costs. However, AlintaGas has indicated that distribution cost/revenue was used to derive retail prices. There is a circularity in this methodology.

  The Regulator considers that changes in retail prices over the Access Arrangement Period may arise from forces of competition subsequent to deregulation of the retail gas market and also from changes to regulated retail gas prices for customers corresponding generally to Reference Services B2 and B3.

  For Reference Services A and B1, the advent of competition in the retail market could at least be expected to keep retail gas prices constant in real terms. AlintaGas has assumed retail gas prices that decrease in real terms. The Regulator accepts these assumptions as reasonable.

  In assessing AlintaGas's assumptions as to average retail prices for Reference Services B2 and B3, the Regulator gave consideration to government statements that could be reflected in future regulation, viz:

  – a nil increase in tariffs in 1999/2000 and 2000/2001 and no more than a CPI tariff increase in 2001/2002;[21]

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[19] Retail gas markets will be fully contestable from 1 July 2002.

[20] Currently regulated under the *Gas Corporation (Charges) By-laws 1996*.

– increases in any standard tariffs to residential users beyond the full opening of the market in July 2002 capped at no more than CPI plus two percent in any year and, on average, it is expected residential tariff increases in any year would not exceed CPI, save that any GST impact may be passed on in full;[21]

– reduction in gas bills by 50 percent for small businesses by 2007;[22,23] and

– a freeze on gas prices for households for 1999 and 2000.[23]

The retail gas prices assumed by AlintaGas for Reference Services B2 and B3 are broadly consistent with these statements. As such, the Regulator considers AlintaGas's assumptions as to retail prices for Reference Services B2 and B3 to be reasonable.

- Gas cost.

  Information provided by AlintaGas to the Regulator indicates that estimates of gas cost were derived differently for Reference Service A and for Reference Services B1, B2 and B3. For Reference Service A, AlintaGas indicated that the average price of gas was derived from the average retail price for Reference Service A minus transmission cost, distribution cost, retail cost and retail margin. For Reference Services B1, B2 and B3, the average gas cost allocated to Reference Service A was deducted from AlintaGas Retail's budgeted total cost of gas, and the residual divided by the total gas quantity purchased for customers that would be supplied by Reference Services B1, B2 and B3.

  The Regulator has two concerns with the AlintaGas's assumptions as to gas costs.

  Firstly, as with the derivation of estimates of average retail prices, there is a circularity in the methodology purportedly used by AlintaGas to estimate gas costs. Distribution cost/revenue has been used to estimate the gas cost, which is in turn used to derive distribution cost/revenue.

  Secondly, AlintaGas's assumed different gas costs, and different changes in gas costs, across the Reference Services. Unless these assumptions reflect actual terms of gas sales, and a practice of purchasing gas specifically for particular services, these assumptions may constitute an arbitrary allocation of distribution revenue to particular Reference Services.

  The Regulator was not provided with information to substantiate the assumptions as to differences in gas costs between services and the changes in gas costs over time. Notwithstanding this, the Regulator has noted that the assumed average cost of gas across all services is marginally greater than the average cost of gas implicit in forecast gas costs in the corporate financial information provided to the Regulator by AlintaGas. On this

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[21] Mr Colin Barnett MLC, Minister for Energy, Media Statement 26 June 1999.

[22] Mr Colin Barnett MLC, Minister for Energy, reported in *The West Australian* Thursday 16 December 1999 p4.

[23] Mr Colin Barnett MLC, Minister for Energy, reported in Chamber of Commerce and Industry, *Inside Industry* 19 October 1999 p3.

basis, the Regulator has accepted the assumptions as to gas costs for the purposes of making an initial assessment of the Initial Capital Base in this Draft Decision.

- Transmission cost.

  Information provided to the Regulator by AlintaGas indicates that estimates of transmission costs were derived differently for Reference Service A and for Reference Services B1, B2 and B3. For Reference Service A, AlintaGas assumed a load factor and an average transmission cost for 2000, consistent with the envisaged transmission tariffs for the DBNGP for 2000. Transmission costs were then assumed to escalate at a proportion of increases in the CPI for 2001 to 2003. For Reference Services B1, B2 and B3, AlintaGas purportedly estimated transmission costs by subtracting the estimated transmission cost for Reference Service A from AlintaGas's budgeted total cost for gas transmission, net of revenues from trading of spare pipeline capacity. An average transmission cost for Reference Services B1, B2 and B3 was derived by dividing the total cost by the sum of forecast gas quantities for these services.

  In assessing the reasonableness of assumptions as to transmission costs, the Regulator considered potential transmission tariffs for the DBNGP.

  AlintaGas currently receives all gas from North-West Shelf gas producers via the DBNGP. Transmission tariffs are currently regulated under the *Dampier to Bunbury Pipeline Regulations 1998* pending approval of the Access Arrangement for this pipeline. The Access Arrangement submitted to the Regulator for the DBNGP proposes a transmission tariff generally consistent with the current regulated tariff, escalating each year at 67 percent of the change in the CPI. While not pre-empting any decision on the Access Arrangement for the DBNGP, it would be reasonable for AlintaGas to assume average transmission costs based on the proposed tariff in the DBNGP Access Arrangement. This corresponds to a transmission tariff of approximately $1.00 for 2000 escalated at 67 percent of the change in the CPI. Load factors of 75 percent, 65 percent, 55 percent and 40 percent can be assumed for Reference Services A, B1, B2 and B3, respectively, consistent with load factor assumptions used by AlintaGas in calculating allocation percentages for costs.[24] The average transmission costs derived from this estimation by the Regulator are $1.33/GJ, $1.52/GJ, 1.79/GJ and $2.43/GJ for Reference Services A, B1, B2 and B3, respectively, and an overall average transmission cost of $1.68.

  The Regulator has also considered that AlintaGas may on-sell unutilised reserved capacity in the DBNGP, and thus reduce transmission costs, although there is no substantiating information for this practice. This would tend to reduce average transmission costs. The Regulator has estimated that the transmission costs assumed by AlintaGas are consistent with an assumption that approximately 60 percent of unused reserved capacity is on-sold at a price equal to the DBNGP tariff. Such an assumption appears reasonable at face value.

  The Regulator has also noted that the transmission costs assumed by AlintaGas for the purposes of the Access Arrangement are conservative (in the sense of leading to a lower

[24] Allocator 3 as described by AlintaGas in section 2.5 of the Access Arrangement Information.

estimate of distribution revenue) in comparison with costs indicated in the corporate financial information provided to the Regulator by AlintaGas.

On the basis of the above reasoning, the Regulator accepts AlintaGas's assumptions as to transmission costs for the purposes of this Draft Decision.

- Retail cost.

  AlintaGas indicated to the Regulator that retail costs were estimated for Reference Services A, B1, and B2 on the basis of assumed base costs per customer. The retail cost for Reference Service B3 was estimated by allocating all residual retail costs to this service.

  The Regulator's primary concern in regard to the assumed retail costs was a large difference in assumed base retail costs for Reference Service A and Reference Service B1. This difference is anomalous given that there has been no indication in the Access Arrangement documentation of a substantive difference between these two services other than differences in the structure of the Reference Tariff. However, the Regulator recognises that an unjustified assumption of very high retail costs for Reference Service A would not be in the interests of AlintaGas, (in the sense of leading to a lower estimate of distribution revenue). On this basis, the Regulator has accepted the assumptions as to retail costs for this Draft Decision.

- Retail margin.

  AlintaGas had assumed decreasing retail margins over the period 2000 to 2003, purportedly due to competition in the retail gas market and increases in costs of gas transmission.

  No information was provided to the Regulator on the derivation of retail margins.

  In reducing retail margins, AlintaGas has implicitly assumed a shift in revenue from the AlintaGas retail business to the AlintaGas distribution business. The Regulator regards the extent of this shift in revenue, and the assumed decline in retail margins, to be unreasonable. While competition in the retail gas market may result in a reduction in retail margins, this would be expected to arise primarily from a reduction in retail prices for gas, and not from a transfer of revenue from retail to distribution activities as assumed by AlintaGas. Furthermore, in the fixing of charges for gas transmission and distribution, the Regulator has a specific obligation under Section 38 of the *Gas Pipelines Access (Western Australia) Act 1998* to take into account extension of effective competition in the supply of natural gas to residential and small business customers. Acceptance of AlintaGas's assumptions as to retail margins for Reference Services B2 and B3 are considered to be inconsistent with this obligation. Given the above, the Regulator revised the assumptions as to retail margins to provide for minimum retail margins of 2.0 percent for each service, consistent ranges of observed retail margins in gas and electricity distribution businesses in NSW.[25]

[25] IPART, June 1999, *Pricing for Electricity Networks and Retail Supply.* IPART, October 1999, *Draft Decision Review of the Delivered Price of Natural Gas in Wagga Wagga and Albury.*

Using the same "deprival value" methodology as is thought to have been used by AlintaGas, but with differences in assumed retail margins for each service, the Regulator derived an Initial Capital Base of $501.2 million as at 31 December 1998. This corresponds to an Initial Capital Base of $510.4 million at as 31 December 1999, taking into account budgeted capital expenditure and depreciation in 1999. This is less than the Initial Capital Base proposed by AlintaGas of $530.3 million as at 31 December 1998 and $539.4 million as at 31 December 1999.

An approximate division of the Initial Capital Base of $510.4 million across asset classes was derived by proportionate reduction of the values ascribed by AlintaGas to particular asset classes, as indicated below.

Revised deprival value of assets as at 31 December 1999

Asset Class	**AlintaGas proposed deprival value ($million at 31 December 1998)**	**Regulator's revised deprival value ($million at 31 December 1999)**
Mains:		
High pressure	142.7	141.9
Medium pressure	169.8	168.6
Medium low pressure	96.8	91.4
Low pressure	28.0	26.4
Secondary gate stations	2.0	1.9
Regulators	8.9	9.3
Meters and service pipes	60.8	50.6
Telemetry and monitoring systems	1.0	1.0
Non network assets	20.3	19.3
Total	**530.3**	**510.4**

(d) The advantages and disadvantages of each valuation methodology applied under paragraphs (a), (b) and (c) (Code section 8.10(d)).

A summary of estimated values of the Initial Capital Base using different valuation methodologies and assumptions is as follows.

Initial Capital Base values derived by different methodologies

Valuation Methodology	Initial Capital Base
DORC valuation	$620 to $707.0 million
AlintaGas proposed deprival value (at 31 December 1998)	$530.3 million
Revised deprival value (at 31 December 1999)	$510.4 million
DAC valuation (AlintaGas)	$299.7 million

Advantages of a DORC Valuation of the Capital Base

There are three commonly cited advantages of a DORC valuation of assets:

i. a DORC valuation would result in tariffs that replicate tariff outcomes in a competitive market;

ii. determination of tariffs on the basis of a DORC valuation of assets will avoid tariff shocks for Users at times of asset replacement; and

iii. an asset value greater than DORC would create incentives for inefficient duplication of system assets by other Service Providers.

The argument that tariffs based on a DORC valuation of the Capital Base would replicate the tariff outcomes of a competitive market arises from the consideration that the capital costs of an efficient new entrant to the market would also be equal to a DORC value (and also equal to DAC and optimised replacement cost for new assets), and hence be setting tariffs on the same basis. By the same argument, tariffs based on an Initial Capital Base that is greater than the DORC value would be considered to include monopoly rents.

The argument that a DORC value is the value that would be ascribed to an asset in a competitive market depends, however, upon what is considered to be the benchmark "competitive market". If the service provider operates in a contestable market where the only barrier to entry is the cost of constructing new assets, then the maximum that the existing monopoly provider could charge for services without attracting competition would be tariffs based on a DORC value of the Capital Base.[26] If the benchmark is a hypothetical competitive market with numerous service providers with assets of different ages, the comparison becomes far more complex. Factors such as competitive pressures, uncertainties over future returns, and technological change may result in prices reflecting returns on asset values that, at different times, may be less than or greater than DORC values.

Proponents of a DORC valuation of the Capital Base have argued that if replacement of the assets will become necessary, then basing tariffs on a DORC valuation of the Capital Base reduces the likelihood of sudden increases in tariffs when replacement is undertaken, resulting in greater tariff certainty and predictability for Users. However, this argument has little in-principle or practical justification.

[26] Note that barriers to entry to the market may exist that are in addition to the costs of assets. For example regulatory barriers.

On an in-principle level, it is difficult to see how Users will be made better off by paying higher tariffs in the present just to avoid a sudden increase in tariffs in the future, when they will pay the same future tariffs in any case. This is particularly the case where assets are relatively new, such as with the AlintaGas distribution systems, and replacement of major assets would not occur for some considerable time.

In practice, it is unlikely that a gas pipeline and associated assets would be replaced in a single event, or even in a closely spaced sequence of events. The different economic and technical lives of various assets making up a pipeline, and even various parts of the pipeline, would result in replacement being undertaken as multiple events over long periods. An initial setting of tariffs for an existing pipeline with an Initial Capital Base less than a DORC valuation may lead to a necessity of raising tariffs over time, but significant tariff shocks are unlikely.

Finally, in regard to the avoidance of inefficient duplication of assets, a DORC valuation of the Initial Capital Base arguably would not result in tariffs that are so high as to motivate inefficient duplication of pipeline assets by another service provider. Correspondingly, a tariff derived from a DORC valuation of the Capital Base would restrict opportunities for potential additional service providers to enter the market and secure market share only to those service providers with efficiently constructed assets. This is the reason for establishing an upper limit on the Initial Capital Base of a DORC value. However, there is no justification in this argument for not adopting values of the Capital Base at less than the DORC value.

Disadvantages of a DORC Valuation of the Capital Base

The principal disadvantage of a DORC valuation of the Initial Capital Base is that should the value so derived exceed the written down value of actual investment in assets (i.e. the DAC value or an inflated actual capital cost), then the resultant tariffs would conceivably provide windfall profits to the Service Provider at the expense of Users. This would occur where the historical depreciation of assets has exceeded the depreciation assumed in calculation of the DORC value. Common practice in calculation of DORC values appears to be to assume straight line depreciation over the technical life of assets. In practice, Service Providers would tend to depreciate assets for taxation purposes using an accelerated rate of depreciation. As a result, DORC values of assets tend to exceed book values of assets.

There are also practical difficulties in arriving at a DORC valuation of assets. A DORC value can, in some circumstances, be highly subjective. This particularly occurs where the asset being valued is operated at less than capacity. Given that an optimised replacement cost should generally be the most efficient means of replacing assets to provide the same level of service, subjective decisions would need to be made as to whether a replacement cost should be based on assets to provide the current level of service, or whether some market growth should be allowed for and hence excess capacity accommodated in the replacement costs.

Overall, a DORC methodology for valuation of the Capital Base has merit as an upper bound for an asset value, based on the consideration that any higher value may motivate inefficient duplication of the distribution systems. However, where the DORC value is substantially greater than the DAC value, a DORC valuation of the Capital Base would give rise to Reference Tariffs that are greater than could be justified by the costs of providing the services, where these costs include a reasonable rate of return on actual capital investment.

Advantages and Disadvantages of a DAC Valuation of the Initial Capital Base

An advantage of a DAC valuation is that, given adequate accounting records, a DAC valuation is auditable as it is based on actual past capital expenditure and revenues. Thus there should be little or no argument about the valuation. This is, however, dependent upon adequate records of initial expenditure, historical returns to the capital assets being valued and historical depreciation of the assets being valued. Such records may not exist in some situations, as has been found to be the case for gas transmission and distribution systems in Victoria where the current businesses of Service Providers were separated from a larger business and separate records of returns and depreciation had not been maintained for the relevant groups of assets.[27] For these systems, although estimates of DAC values could be made by making certain assumptions as to the attribution of returns to particular assets and depreciation, the resultant estimates were highly sensitive to the assumptions made and the resultant ranges of DAC estimates were too broad to be useful in assigning particular asset values.

A second advantage of a DAC valuation of the Initial Capital Base is that it is calculated from the actual construction cost of the assets and subsequent returns of capital by depreciation. Thus the DAC value arguably reflects the unrecovered capital costs of providing the services. However, a DAC value does not take into account changes in the value of funds and assets as a result of inflation. Investors can reasonably expect returns to capital and returns of capital to maintain value in real terms. By not accounting for inflation, a DAC value tends to reflect an over-estimate of past returns of capital to investors. Correspondingly, returns to capital calculated from a DAC value of the Capital Base would tend to underestimate required real returns on investment. The older the assets, the more biased a DAC value is in representing the real capital cost of the assets due to not accounting for inflation.

Although the DAC to some extent reflects actual capital costs in providing a service, these costs may not reflect the current most efficient means of providing a service due to failure to take into account technological change. From a forward-looking perspective in regulation, a DAC valuation of assets means that Tariffs are not being determined on the basis of efficient capital costs and "best-practice" in provision of services. Also, a DAC value may include value attributable to assets that are redundant or obsolete. Again, the older the assets, the more likely it is that a DAC value will not reflect a forward-looking efficient capital cost of service provision. Indeed, as noted by the Victorian Office of the Regulator General, assigning a value to the Capital Base on the basis of historical costs and returns has little justification in terms of economic theory, which is concerned with creating the incentives for efficient forward-looking decision making rather than unravelling the past.[28]

The disadvantage of a DAC value arising from the failure to account for inflation may be roughly offset by adjustment for inflation. An "inflation adjusted capital cost" or "inflation adjusted historic cost" can be estimated by revaluation of the assets using a broad inflation indicator such as CPI statistics. Such a valuation is still, however, subject to the availability

[27] Victorian Principal Transmission System and Western Transmission System as described in the Final Decision of the ACCC on the relevant Access Arrangements (1998).

[28] Office of the Regulator General (Victoria), 1998, Final Decision on the Multinet, Westar and Stratus distribution systems.

of relevant financial records and has the disadvantage of potentially not reflecting efficient capital costs of service provision.

Regardless of the value that may be ascribed to capital assets in a hypothetical competitive market for gas transportation, a regulated Service Provider will, over the long term, have a regulatory Capital Base valued at approximately the inflation adjusted capital cost. Regardless of the methodology used to derive an initial value for the Capital Base, once the original assets are fully depreciated the Capital Base will comprise only assets purchased after commencement of regulation. The Code provides for a return on these assets on the basis of an inflated written-down actual cost, minus any value attributable to redundant assets. Valuation of existing assets at an inflation adjusted capital cost is therefore generally consistent with the treatment under the Code of Capital Expenditure that occurs subsequent to acceptance of the Access Arrangement.

Advantages and Disadvantages of a Deprival Value Valuation of the Initial Capital Base

An optimised deprival value is an estimate of the current value of an asset to the owning business. In a situation of a competitive market for both outputs and assets, the optimised deprival value would equate to the maximum value that the asset would attract in a market sale. As the market value represents the opportunity cost to a business of holding the asset, a reasonable rate of return on the Initial Capital Base valued as the optimised deprival value compensates the business for bearing this opportunity cost.

This argument for optimised deprival value as a valuation of the Initial Capital Base breaks down in a situation of regulated tariffs. If the optimised deprival value is determined as the net present value of expected future returns, then there is a circular argument in an industry of regulated tariffs. This arises where regulated tariffs provide for a reasonable rate of return to an Initial Capital Base valued as a net present value of future returns, but the net present value of future returns depends on the regulated tariffs.

Notwithstanding the circularity in asset value and regulated tariffs, optimised deprival value can be used to derive a value that would be consistent with an assumption about future transportation revenue to the pipeline. This approach can be used to derive an Initial Capital Base that would be consistent with views about the reasonable expectations of the asset owner, prior to a regulatory regime coming into effect, and can also be used to derive an Initial Capital Base that would be consistent with the reasonable expectations of Users on the outcome of the pipeline being regulated. It is recognised, however, that the reasonableness of this approach is dependent in turn on the reasonableness of the assumptions that are made about the revenue and costs of future gas transportation. Valuing the Capital Base on the basis of existing tariffs may entrench existing monopoly profits in regulated tariffs.

Conclusions on Alternative Methodologies for Valuation of the Initial Capital Base

The discussion of advantages and disadvantages of different methodologies for valuing the Initial Capital Base of the AlintaGas distribution systems indicate that neither DAC nor DORC values are an obvious choice as a valuation methodology, although each has potential advantages.

A DORC valuation of the Initial Capital Base has the advantages of being consistent with efficient capital costs of providing services and resulting in tariffs for gas transportation that are not so high as to result in inefficient bypass of existing assets. The primary disadvantage

of the DORC valuation is that it may result in over-recovery of the capital costs of providing the service in situations where historical depreciation of assets has occurred at a rate in excess of that assumed for the purposes of estimating the DORC. Hence a DORC valuation may result in windfall gains to the Service Provider and higher costs to end users of gas than can be justified as a reasonable return on investment by the Service Provider.

A DAC valuation has the advantage of being an auditable number that reflects actual capital costs in service provision. However, a DAC value may not be readily estimable if records have not been maintained of costs, returns and depreciation for the particular group of assets being valued. A DAC value may not represent a reasonable asset value for the Service Provider if no account is made for inflation, nor may it represent a reasonable value to Users if no account is made for redundancy of assets or technological change.

To determine the appropriate methodology for assigning a value to the Initial Capital Base for the AlintaGas Distribution Systems, it is necessary to consider the different methodologies in the specific context of the AlintaGas distribution systems.

Consistent with the guidance provided by the Code, there is not considered to be any reason for valuing the Initial Capital Base at greater than the DORC value or less than the DAC value. Depending upon assumptions as to future throughput and tariffs for the distribution systems, the optimised deprival value of the Capital Base may fall within the range of DAC and DORC. However, a deprival value is of dubious merit where it is based on tariffs and revenues that arise in the absence of a competitive market.

In the absence of a unique value of the Initial Capital Base that has some economic justification, the derivation of a value must depend upon a balance between the interests of the Service Provider and Users of the distribution systems. Striking such a balance of interests was the justification provided by AlintaGas for the nominated Initial Capital Base, with the criterion of a balance of interests being that distribution tariffs would not exceed the current distribution charges implicit in retail gas prices. This approach of maintaining a status quo depends, however, upon a presumption of reasonableness of the current distribution charges. This matter will be examined in the remainder of this chapter.

(e) International best practice of pipelines in comparable situations and the impact on the international competitiveness of energy consuming industries (Code section 8.10(e)).

The Regulator did not assess international best practice for the purposes of this Draft Decision as no suitable and readily available benchmarks were identified and the cost of developing such benchmarks was assessed as prohibitive.

The Regulator notes that DORC valuations have been commonly viewed by other regulatory agencies in Australia as "starting points" for asset valuation. A summary of approaches to asset valuation is provided below.

Initial Capital Base determinations for gas transmission and distribution systems

Regulatory Agency	Pipeline or Distribution System	Basis for Valuation of the Initial Capital Base
Final Decisions		
ACCC	Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd transmission systems (Victoria) (October 1998)	DORC value, adjusted downward by approximately 2.8 percent to avoid tariff increases.
ORG	Multinet, Westar and Stratus distribution systems (Victoria) (October 1998)	DORC value, adjusted downwards by between zero and 8 percent for different parts of the distribution systems in order to avoid tariff increases.
IPART	Albury Gas Company Limited (December 1999)	DORC value, adjusted downwards by approximately 7 percent to avoid network price differentials.
Draft Decisions		
ACCC	AGL Pipelines (NSW) Pty Ltd Central West Pipeline (September 1999)	DORC value (but nominally equivalent to the DAC value as this is a new pipeline – 12 months old at the time of valuation)
IPART	AGL Gas Network Limited Natural Gas System in NSW (October 1999)	Value determined at an approximate mid point between DAC and DORC values on the basis of a balance of interests between the Service Provider and Users providing for reasonable financial outcomes for the Service Provider and real reductions in tariffs.
IPART	Great Southern Energy Gas Networks Pty Limited (NSW) (September 1998)	Value determined between DAC and DORC values on the basis of impacts on tariffs and a balancing of interests between the Service Provider and Users. The value is approximately 82 percent of DORC and 188 percent of DAC.
WA Gas Access Regulator	Parmelia Pipeline (Western Australia) (October 1998)	Value determined based on the economic value of the pipeline, impacts on tariffs and a balancing of interests between the Service Provider and Users, and subject to a Redundant Capital Policy that will see the value reduced if forecast market growth does not eventuate. The value is approximately 95 percent of DORC.

Regulatory decisions have most commonly derived Capital Base values through a methodology whereby initial DORC values are reduced in accordance with criteria based on a balancing of interests of the service provider and Users. For the most part, the criteria for a balance of interests has been that regulated tariffs should not exceed existing tariffs. The recent draft decision by IPART on the AGL Gas Network Limited Natural Gas System in NSW (October 1999) adopted a more stringent criteria that took into account financial outcomes for the Service Provider and a real reduction in tariffs. Derivation of a Capital Base value from a DORC valuation has commonly been used due to the ability to derive disaggregated asset values from the DORC valuations of asset classes.

The general methodology proposed by AlintaGas for valuation of the Initial Capital Base is to reduce the DORC valuations of different asset classes so as to derive a total value of the Initial Capital Base that does not give rise to increases in current implicit charges for gas distribution. This methodology is consistent with precedents in other states.

(f) The basis on which Tariffs have been (or appear to have been) set in the past, the economic depreciation of the covered pipeline, and the historical returns to the Service Provider from the covered pipeline (Code section 8.10(f)).

Tariffs for gas distribution in the AlintaGas network have to date been regulated under the *Gas Corporation Act 1994* and subordinate regulations: the *Gas Distribution Regulations 1996*.

Part 6 of the *Gas Corporation Act* provides for access to, and pricing for, gas transmission capacity for third parties in the AlintaGas distribution systems. Section 93 of the Act provides for the relevant Minister, by order or orders published in the Government Gazette, to prescribe the manner and timing of the progressive introduction of the corporation's obligations to provide access to third parties. That is, the implementation of obligations to make available access to spare capacity and developable capacity on a non-discriminatory basis and on a first come first served basis to any existing or prospective shipper seeking access to either or both of those capacities.

Particular requirements for provision of access, the terms and conditions of access, and pricing for gas distribution in the AlintaGas network are set out in Schedule 6 of the Act. Section 2(3)(e) of schedule 6 provides for prices for gas distribution to be established by regulation. The *Gas Distribution Regulations* do not specify prices for gas distribution, but rather provide for AlintaGas to determine prices in accordance with guidelines set out in the Regulations and subject to consideration of any recommendations as to pricing methods or prices made by the Coordinator under section 6 of the *Energy Coordination Act 1994*.

The guidelines for pricing set out in the Gas Distribution Regulations provide for prices to comprise a fixed or demand component and a throughput component. Prices are generally required to be determined with an objective of recovering within a reasonable time from Users, AlintaGas's system investment, a reasonable rate of return on that system investment, and costs incurred in maintaining and providing that part of gas distribution capacity (excluding user specific facilities) which relates to the high pressure system. Prices are also to provide for "service prices" with the objective of recovering within a reasonable time from users AlintaGas's user specific investment, a reasonable rate of return on that investment, and the costs of maintaining and providing user specific facilities. Notwithstanding these general pricing principles, the Regulations provide for prices to be set at the opportunity cost or avoidable cost of providing a gas distribution service if the User or Prospective User is otherwise likely to bypass the distribution systems.

AlintaGas is currently only under an obligation to make access available to the distribution network for Users transporting in excess of 100 TJ/annum to individual delivery points. A methodology has been developed under the *Gas Distribution Regulations* for the setting of prices for gas distribution for these Users.[29] Prices comprise three charges:

[29] AlintaGas Distribution Division, 25 June 1997. Gas Distribution Access Pricing Methods.

i. a service price, set to recover user specific costs separately for each User;

ii. a demand price, set to recover 60 percent of common costs and levied as a charge per unit of peak demand; and

iii. an energy price, set to recover 40 percent of common costs and levied as a charge per unit of energy throughput.

The demand price and energy price are determined from the "required annual revenue" for the high pressure system. The required annual revenue comprises:

- a return on the value of capital assets;
- depreciation on the value of capital assets;
- operating and maintenance costs; and
- a recovery of any revenue surplus or shortfall since the last price re-determination.

As of August 1998, the value of capital assets of the high pressure system was set at $68.058 million for the purposes of determining access prices for large contract customers.[30] By comparison, the Access Arrangement proposes allocating a substantially larger amount of capital costs to these Users, approximately equivalent to a value of assets serving these Users of $111 million.

For gas distributed and retailed by AlintaGas on its own behalf, implicit charges for gas distribution to small commercial customers and residential customers are constrained by regulated retail charges for gas set out in *the Gas Corporation (Charges) By-laws 1996*. The by-laws establish retail gas charges for residential and general-supply services that correspond generally to Reference Services B2 and B3 proposed by AlintaGas. These gas charges are as follows.

- Residential gas charges:
  - fixed charge of 8.31 cents per day ($30.33 per year);
  - $16.34/GJ for the first 0.0432 GJ/day;
  - $10.58/GJ for the next 0.0864 GJ/day; and
  - $7.78/GJ for use in excess of 0.1296 GJ/day.
- General supply charges:
  - fixed charge of 8.31 cents per day ($30.33 per year);
  - $16.89/GJ for the first 0.36 GJ/day; and
  - $13.45/GJ for use in excess of 0.36 GJ/day.

[30] AlintaGas Distribution Division, 19 August 1998. Gas Distribution Pricing Redetermination 1998/99.

These retail gas charges would (or should) underlie AlintaGas's assumptions as to the average retail gas tariffs for Reference Services B2 and B3 that were used to estimate projected distribution revenues, as described above.

(g) The reasonable expectations of persons under the regulatory regime that applied to the pipeline prior to the commencement of the Code (Code section 8.10(g)).

As indicated above, the regulatory regime that applied to AlintaGas prior to the commencement of the Code was regulation under the *Gas Corporation Act 1994* and subordinate regulations. This regulatory framework provides for third-party access to the distribution systems in a generally similar manner to the Code, subject to the relevant Minister prescribing the manner and timing of the progressive introduction of the corporation's obligations to provide access to third parties.

The setting of terms and conditions for third-party access to the distribution systems is not envisaged to be substantively different from that which would have occurred under the Gas Corporation Act, albeit regulation under the Code is procedurally more rigorous and involves a reduction in the discretion of AlintaGas in the setting of tariffs and charges for gas distribution. Consequently the valuation of the Initial Capital Base for the distribution system in accordance with the provisions of the Code would be consistent with expectations of AlintaGas under the regulatory provisions of the *Gas Corporation Act 1994*.

(h) The impact on the economically efficient utilisation of gas resources (Code section 8.10(h)).

This section of the Code requires the Regulator to consider the effect of asset valuation methodologies on the use of gas resources and in particular on whether the valuation methodology is consistent with tariffs that will provide the price signals that are consistent with economic efficiency in the use of these resources. The Victorian Office of the Regulator General has interpreted this requirement as a need to determine whether the valuation methodology that is selected is consistent with providing price signals which give incentives for the development and use of the most efficient source of gas for the relevant market. That is, the asset valuation methodology and gas transportation pricing regime should encourage the development and use of gas sources that minimise the (forward looking) cost of gas exploration, extraction, transportation and supply to end users.[31]

Efficient use of gas vis a vis other energy resources would require that Users of the distribution systems, and ultimately the end users of gas, should pay at least the avoidable cost of gas transportation, which is the (forward looking) cost that the service provider could avoid by ceasing to provide the service to that customer. This avoidable cost would not include capital costs arising from sunk investment. Consequently, in order to motivate the efficient use of gas, the valuation of the capital base and the allocation of resultant capital costs should be designed to minimise the divergence in gas usage from the efficient levels that would occur if Users paid only the avoidable cost.

[31] Office of the Regulator General, Victoria, May 1998. Access Arrangements – Multinet Energy Pty Ltd & Multinet (Assets) Pty Ltd, Westar (Gas) Pty Ltd & Westar (Assets) Pty Ltd, Stratus (Gas) Pty Ltd & Stratus Networks (Assets) Pty Ltd, Draft Decision, p65.

The criterion would generally require that the valuation of the Capital Base be as low as possible while still being consistent with providing the signals to investors in gas distribution assets that motivate a longer-term efficient level of investment in gas transmission assets. This may necessitate a treatment of past investment in a similar manner as for new capital investment, viz valuation of the Initial Capital Base at an inflation adjusted capital cost or inflation adjusted historic cost. Such a valuation was not made for the AlintaGas distribution network, but would be greater than the DAC value. A more precise consideration of the effect of valuation of the Capital Base on future investment in distribution assets requires assessment of the commercial interests of the Service Provider and the potential impacts of different valuations of the Capital Base on future investment. This was undertaken by assessing the impact of different Capital Base values and associated Total Revenues on financial indicators of the distribution business, and is described later in this section of the Draft Decision.

(i) The comparability with the cost structure of new pipelines that may compete with the pipeline in question (for example, a pipeline that may by-pass some or all of the pipeline in question) (Code section 8.10(i)).

This criterion would generally require that the Initial Capital Base not be so high as to result in Reference Tariffs that motivate inefficient duplication of distribution assets. An upper bound on the Initial Capital Base of a DORC value (both in total and for particular asset classes) is consistent with this requirement.

(j) The price paid for any asset recently purchased by the Service Provider and the circumstances of that purchase (Code section 8.10(j)).

None of the regulated assets of the AlintaGas distribution systems have been purchased since the formation of AlintaGas in 1995. Consequently, the price paid for assets in any recent purchases is not considered a relevant criterion for valuing the Capital Base.

(k) Any other factors the Relevant Regulator considers relevant (Code section 8.10(k)).

In assessing the Initial Capital Base, the Regulator considered the following factors in addition to those set out in sections 8.10(a) to 8.10(j) of the Code and which relate to a balancing of interests between AlintaGas and Users and Prospective Users of the distribution systems.

- Comparison of the distribution tariffs arising from deprival values of the Initial Capital Base with estimated current tariffs.

- The reasonableness of a methodology for determining an Initial Capital Base on the basis of maintaining current gas distribution revenues and retail gas prices.

- The impact of an Initial Capital Base of less than proposed by AlintaGas on the Total Revenue of the AlintaGas distribution business and implications for the financial status of the business, as evident from modelled financial indicators.

Comparison of Proposed Distribution Tariffs with Current Distribution Charges

In determining an Initial Capital Base, AlintaGas utilised forecasts of retail gas prices, volumes of gas sales, gas costs, transmission costs, retail costs and retail margins to determine forecasts of implicit gas distribution charges for the period 2000 to 2003. The

forecast gas distribution revenues for 2000, and the associated average distribution tariffs, were used by the Regulator as an indicator of the current gas distribution charges for each Reference Service. AlintaGas's proposed average tariffs for each Reference Service are indicated in clause 9 of schedule 2 of the Access Arrangement.

A comparison of the current and proposed tariffs indicates that the average Reference Tariffs proposed by AlintaGas, or which would arise from the Regulator's revised Initial Capital Base, are close to current implicit charges for gas distribution, with the exception of the average tariff for Reference Service A. There is also a higher average tariff for gas distribution over all Reference Services.

The reason for the higher average tariff across all services lies in the methodology and assumptions used by AlintaGas to assign a value to the Initial Capital Base. AlintaGas assumed declining retail margins over the period 2000 to 2003 while maintaining constant retail gas prices. This assumption has the effect of "transferring" revenue from the AlintaGas retail business to the AlintaGas distribution business and increasing forecast distribution revenues over the period. A value was ascribed to the Initial Capital Base that would return the same present value of total revenue for the period. The consequent "averaging effect" in that valuation methodology gives rise to an Initial Capital Base that results in higher revenues in the first year of the Access Arrangement, and consequently higher average distribution tariffs.

Reasonableness of Determining an Initial Capital Base so as to Maintain Current Revenues

In order to assess the reasonableness of valuing the Initial Capital Base so as to maintain current revenues, the Regulator compared asset values and associated capital costs and distribution tariffs with other gas distribution systems in Australia.

Comparative data on Australian distribution systems are indicated below. For the systems other than AlintaGas, these data were compiled from approved Access Arrangements (Multinet, Westar, Stratus and Great Southern Energy Networks), a final decision on an Access Arrangement (Albury Gas Company), and a draft decision (AGL Gas Networks Limited).

Comparison of capital costs and distribution tariffs across Australian distribution systems.

Service provider	AGC (NSW)	Multinet (Vic)	Westar (Vic)	Stratus (Vic)	GSN (NSW)	AGLGN (NSW)	AlintaGas	
Data year	1999	1998	1998	1998	1999	1999/00	**2000**	
System Characteristics								
Customers	15,934	586,703	417,000	404,400	14,341	813,133	**416,299**	
km of mains	325	8,736	7,223	7,314	525	20,830	**10,495**	
Customers per km of mains	48.8	67.2	57.1	56.7	27.3	39.0	**39.7**	
Gas transported per km of mains (TJ/km/year)	8.8	6.7	10.1	7.8	3.0	4.7	**2.7**	
Capital Base								
Capital base ($million)	22.2	740.2	631.7	580.0	28.0	1,550.0	**530.3**[a]	**510.4**[b]
Capital base ($/GJ/annum)	7.69	12.64	8.66	10.15	17.70	15.68	**19.1**	**18.3**
Capital base ($/customer)	1,381	1,262	1,533	1,398	1,952	1,893	**1,273**	**1,226**
Capital Costs								
Rate of return (pre-tax real %)	7.75	7.75	7.75	7.75	7.75	7.75	**8.0**	**7.9**
Annual capital cost ($million)	2.39	85.10	70.20	65.30	3.17	183.30	**64.10**	**57.7**
Capital cost ($/GJ/annum)	0.83	1.45	0.96	1.14	2.00	1.85	**2.30**	**2.07**
Capital cost ($/customer)	150	145	170	157	221	225	**154**	**139**
Average distribution charges ($/GJ)								
Contract/Demand	0.08	0.23	0.08	0.12	1.37	0.99	**0.54**	**0.50**
Volume/Tariff	3.52	2.94	3.86	3.77	5.82	7.90	**7.46**	**6.97**
Total	1.19	2.24	1.48	1.86	3.47	2.95	**3.63**	**3.39**

a. Initial Capital Base proposed by AlintaGas as at 31 December 1998 and corresponding to a value of $539.4 million as at 31 December 1999.
b. As at 31 December 1999.

The comparative data indicate that the Initial Capital Base of $530.3 million proposed by AlintaGas and the resultant capital costs are relatively high on a "per gigajoule of gas delivered" basis, but relatively low on a "per customer" basis. The high per gigajoule capital costs would generally be expected given the relatively low household use of gas in Western Australia compared to Victoria, and this translates into relatively high per gigajoule distribution charges. There is no *a priori* reason for relatively low capital costs on a per customer basis, particularly given the relatively low number of customers per kilometre of mains in comparison with the Victorian distributors. The latter provides some indication that

the proposed capital base and capital costs are comparatively reasonable cost impositions on Users of the distribution systems and end users of gas.

The Regulator's revised deprival value of $510.4 million still gives rise to relatively high capital costs on a per gigajoule basis. The value of capital assets per customer and the capital costs per customer are less than equivalent ratios for the other distribution systems described above.

Financial Indicators

The Initial Capital Base is a major determinant of the allowed Total Revenue for the AlintaGas distribution systems. The Total Revenue has obvious implications for the AlintaGas distribution business in terms of the ability to maintain a viable business and finance future capital expenditure and business growth. In contemplating an Initial Capital Base value of $510.4 million that is lower than that proposed by AlintaGas, the Regulator considers it appropriate to examine the potential financial impact on the distribution business.

The Code specifically provides for the Regulator to consider financial indicators in the assessment of proposed Reference Tariffs. Section 8.6 of the Code states that:

> in view of the manner in which the Rate of Return, Capital Base, Depreciation Schedule and Non-Capital Costs may be determined (in each case involving various discretions), it is possible that a range of values may be attributable to the Total Revenue. In order to determine an appropriate value within this range, the Relevant Regulator may have regard to any financial and operational performance indicators it considers relevant in order to determine the level of costs within the range of feasible outcomes under section 8.4 that is most consistent with the objectives mentioned in section 8.1.

Section 8.7 of the Code goes on to state that:

> if the Relevant Regulator has considered financial and operational performance indicators for the purposes of section 8.6, it must identify the indicators and provide an explanation of how they have been taken into account.

Various financial indicators can be used to indicate the "health" of a business. Relevant indicators depend upon the perspective of the inquirer into the business. For the purposes of assessing the impact of an Initial Capital Base of $510.4 million on the AlintaGas distribution business, the Regulator considered the perspective of creditors and the ability of AlintaGas to finance capital expenditure. Consistent with a similar analysis of financial indicators by IPART[32] the Regulator considered the following criteria of financial performance:

- financial outcomes should be consistent with maintaining an investment grade credit rating (BBB or higher[33]); and
- financial outcomes should provide AlintaGas with the capacity to finance the necessary capital investments in the debt markets.

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[32] IPART, Draft Decision on the AGL Gas Network Limited Natural Gas System in NSW (October 1999).

[33] Fridson, M.S., 1991. *Financial Statement Analysis: a Practitioners Guide*, New York: Wiley, p184.

In calculating financial indicators, the Regulator has assumed a financial structure of AlintaGas consistent with parameters assumed by the Regulator in determination of the regulatory rate of return, viz:

- initial debt to total assets ratio of 60 percent;
- equity to total assets ratio of 40 percent;
- nominal pre-tax cost of debt of 8.2 percent;
- nominal pre-tax cost of equity of 15.9 percent.

From these assumptions, a set of regulatory accounts were modelled and used to calculate financial ratios used as performance indicators, viz:

- ratio of earnings before interest and tax to interest (EBIT interest coverage);
- ratio of earnings before interest, tax, depreciation and amortisation to interest (EBITDA interest coverage);
- ratio of funds from operations to interest (FFO interest coverage); and
- ratio of funds from operations to total debt (FFO debt coverage).

Financial ratios determined for AlintaGas for an Initial Capital Base of $510.4 million are as follows.

AlintaGas financial ratios from regulatory statements

Financial Indicator	2000	2001	2002	2003	2004
EBIT interest coverage	1.64×	1.64×	1.63×	1.63×	1.61×
EBIDTA interest coverage	2.28×	2.30×	2.33×	2.35×	2.36×
FFO interest coverage	3.69×	3.63×	3.62×	3.64×	3.66×
FFO debt coverage	11.0%	10.8%	10.7%	10.8%	10.8%

Benchmark financial indicators have been developed by the United Kingdom Office of Gas an Electricity Markets (Ofgem) for public electricity suppliers, reflecting minimum values of financial ratios judged to be consistent with a public electricity supplier being able to maintain an investment grade credit rating, and by Standard and Poor for the purposes of assigning credit ratings to transmission and distribution businesses. These benchmarks are indicated below.

Financial indicator benchmarks for investment grade credit ratings

Financial Indicator	Ofgem financial indicators for public electricity price reviews[34]	Standard & Poor financial medians for BBB rated transmission and distribution companies[35]
EBIT interest coverage	Minimum 1.5×	–
EBITDA interest coverage	Minimum 2.25×	–
FFO interest coverage	Minimum 2.0×	2.0×
FFO to total debt	Minimum 12 percent	10 percent

The comparison of the modelled financial ratios for the AlintaGas distribution business with the benchmark ratios indicate that the Total Revenue derived from an Initial Capital Base of $510.4 million is consistent with an investment grade credit rating.

Conclusion

In determining the most appropriate Initial Capital Base for the AlintaGas distribution systems, the Regulator has considered a balance of interests between AlintaGas, Users and Prospective Users. In accordance with the proposal by AlintaGas, the Regulator has contemplated a criterion for a balance of interests as the Initial Capital Base being consistent with not giving rise to increases in retail gas prices, consistent with a premise of maintaining the current and projected levels of revenue for the distribution business. The Regulator did, however, revise AlintaGas's proposed Initial Capital Base in accordance with revisions to assumptions used in the estimation of current and projected distribution revenues and revisions to distribution costs that underlie the revenue requirement for the distribution business.

The Regulator has decided that AlintaGas's Initial Capital Base for the Mid-West and South-West Distribution Systems should be $510.4 million as at 31 December 1999.

The following amendment is required before the Access Arrangement will be approved.

> Amendment 28
>
> The Access Arrangement and Access Arrangement Information should be amended to reflect an Initial Capital Base of $510.4 million as at 31 December 1999.

[34] Ofgem, December 1999. *Reviews of Public Electricity Suppliers 1998 to 2000: Distribution Price Control Review, Final Proposals*, p47.

[35] Standard and Poor's, September 1998, *Infrastructure Finance: Project Finance, Utilities and Concessions, Criteria and Commentary.*

5.4 CAPITAL EXPENDITURE

5.4.1 Access Code Requirements

Sections 8.15 to 8.21 of the Code provide for Capital Expenditure on a covered pipeline and associated regulated assets to be incorporated into the Capital Base of the pipeline, and for forecast Capital Expenditure to be considered in determination of Reference Tariffs.

The Capital Base of a covered pipeline may be increased from the commencement of a new Access Arrangement Period to recognise additional capital costs incurred in constructing New Facilities for the purpose of providing services, subject to the New Facilities Investment meeting certain criteria.

Section 8.16 of the Code sets out criteria that must be met by any New Facilities Investment if the actual capital cost of that investment is to be added to the Capital Base. These criteria are:

(a) the amount of the capital cost does not exceed the amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of delivering services; and

(b) one of the following conditions is satisfied –

i. the Anticipated Incremental Revenue generated by the New Facility exceeds the New Facilities Investment; or

ii. the Service Provider and/or Users satisfy the Relevant Regulator that the New Facility has system-wide benefits that, in the Relevant Regulator's opinion, justify the approval of a higher Reference Tariff for all Users; or

iii. the New Facility is necessary to maintain the safety, integrity or Contracted Capacity of Services.

Section 8.17 of the Code sets out two factors that the Regulator must consider in determining whether Capital Expenditure meets the criteria set out in section 8.16:

(a) whether the New Facility exhibits economies of scale or scope and the increments in which Capacity can be added; and

(b) whether the lowest sustainable cost of delivering Services over a reasonable time frame may require the installation of a New Facility with Capacity sufficient to meet forecast sales of Services over that time frame.

Section 8.18 of the Code allows for a Reference Tariff Policy to state that the Service Provider will undertake New Facilities Investment that does not satisfy the requirements of section 8.16, and for the Capital Base to be increased by that part of such investment which does satisfy section 8.16 (the Recoverable Portion). Section 8.19 of the Code allows for an amount of the balance of the investment to be assigned to a Speculative Investment Fund, and to be added to the Capital Base at some future time if the criteria of section 8.16 come to be met. Section 8.19 also sets out the manner in which the value of the Speculative Investment Fund is determined at any time.

Section 8.20 of the Code provides for Reference Tariffs to be determined on the basis of New Facilities Investment that is forecast to occur within the Access Arrangement Period provided that the investment is reasonably expected to pass the requirements in section 8.16 when the investment is forecast to occur. This does not, however, mean that the forecast New Facilities Investment will automatically be added to the Capital Base after it has occurred (section 8.21). Rather, the Regulator will assess whether the investment meets the criteria of section 8.16 of the Code either at the time of review of the Access Arrangement or, if asked to do so by the Service Provider, at the time at which the investment takes place.

Section 8.22 of the Code requires that either the Reference Tariff Policy should describe, or the Regulator shall determine, how the New Facilities Investment is to be determined for the purposes of additions to the Capital Base at the commencement of the subsequent Access Arrangement Period. This includes whether (and how) the Capital Base at the commencement of the next Access Arrangement Period should be adjusted if the actual New Facilities Investment is different from the forecast New Facilities Investment.

Sections 8.23 to 8.25 of the code set out provisions for New Facilities Investment to be financed in whole or in part of capital contributions from Users, or from surcharges over and above Reference Tariffs to be levied on Users.

5.4.2 Access Arrangement Proposal

AlintaGas has provided details of planned Capital Expenditure in sections 3.5 and 3.6 of the Access Arrangement Information. Further information on Capital Expenditure, including a more detailed breakdown, was made available to the Regulator. The forecast Capital Expenditure is summarised as follows.

Forecast Capital Expenditure (nominal $million; year ending 31 December)

Type of investment	2000	2001	2002	2003	2004	Total
High pressure mains	4.0	3.6	3.0	2.6	2.0	**15.2**
Medium/low pressure mains:						
Infill	1.1	0.5	0.0	0.0	0.0	**1.6**
Re-laying program	2.2	2.5	2.5	2.7	2.8	**12.7**
Capacity reinforcement	0.3	0.1	0.2	0.2	0.1	**0.9**
Mains extensions	4.0	4.2	4.5	4.6	4.7	**22.0**
Meters and service pipes	8.2	7.8	7.8	7.6	7.5	**38.9**
Telemetry and monitoring systems	0.1	0.1	0.1	0.3	0.1	**0.7**
Equipment and vehicles:						
Information systems	3.8	1.4	0.5	1.6	0.6	**7.9**
Vehicles, plant and equipment	3.0	1.1	0.8	1.1	0.7	**6.8**
Buildings	0.1	0.1	0.1	0.1	0.1	**0.5**
Total	**26.8**	**21.4**	**19.5**	**20.9**	**18.5**	**107.2**

AlintaGas has indicated that the proposed capital expenditure is primarily driven by the investment required for connection of new customers and for reinforcing the integrity of the existing network.

5.4.3 Submissions from Interested Parties

- Western Power

  For the Access Arrangement Period, new facilities investment and non-capital costs are forecast to total $107.1 million and $185.3 million respectively. This amount is included in the determination of Reference Tariffs. In view of the magnitude of these forecasts and the implications for the determination of Reference Tariffs, Western Power urges OffGAR to:

  – seek independent reviews of these forecast expenditures to ensure that the forecasting methodology is sound and applied consistently; and

  – consider the merit of directing the Service Provider to support the New Facilities Investment forecast with a detailed asset management policy. Such a policy could be audited to confirm, and therefore provide Users with a higher degree of confidence in the forecasts, that the foreshadowed investment would be consistent with the "prudent Service Provider test" set out in section 8.16(a) of the Code.

The Regulator has made an assessment of the forecast capital expenditure and operating expenditure on the basis of advice provided by Connell Wagner. The Regulator's assessment of the capital investment proposed by AlintaGas is summarised below under "Additional Considerations of the Regulator". The Regulator's assessment of the Non-Capital Costs proposed by AlintaGas is described in section 5.5 of this Draft Decision.

AlintaGas has indicated a commitment to developing a detailed asset management strategy and plan over the Access Arrangement Period. The Regulator considers that the strategy and plan can be used to assess the prudence of investment proposals when the Access Arrangement is reviewed. It should be noted that the acceptance of Capital Expenditure forecasts for the purposes of assessing the current Access Arrangement and setting Reference Tariffs does not constitute a decision by the Regulator to allow the forecast expenditure to be added to the Capital Base when the Access Arrangement is reviewed.

- Office of Energy

  AlintaGas's forecast capital expenditure on new facilities contains considerable capital expenditures for mains extensions, meters and service pipes to meet new demand. Meters and service pipes costs for Reference Service A and B1 are recovered from users through user specific charges. If the proposed expenditure includes any expenditure for Reference Service A and B1, it would be inappropriate for that new investment to be allocated across all tariff groups.

The Regulator's review of forecast meter and service pipe expenditure indicates that forecast expenditure on meters and service pipes relates to expected new connections to residential customers (Reference Service B3). The expenditure does not include the cost of meters or service pipes for Users of Reference Services A and B1.

5.4.4 Additional Considerations of the Regulator

The Regulator made an assessment of the forecast capital expenditure on the basis of advice provided by Connell Wagner. This advice comprised:

- a review of the methodologies employed by AlintaGas and the reasonableness of the input assumptions used to calculate the proposed capital expenditure forecasts for each investment category; and

- a review of the forecast capital expenditure in terms of whether it conformed to the requirements of the Code.

The Regulator's assessment of forecast Capital Expenditure is summarised below.

High Pressure Mains

AlintaGas's forecast Capital Expenditure on high pressure mains is based on AlintaGas's development plan for the high pressure gas distribution system (hereafter referred to as the "high pressure development plan"). Capital expenditure on the high pressure system is forecast at $15.2 million over the Access Arrangement Period. The expenditure planned for high pressure mains is for works related to "security of supply" and "new gas supply".

The security-of-supply expenditure relates to reinforcement of existing high pressure mains and installation of "under pressure shut off" regulator sets. The planning criteria for the security-of-supply expenditure are not clearly documented in the high pressure development plan. While the document refers to a policy paper developed by the System Development section of AlintaGas, it is unclear whether the outcomes of this paper were adopted. The Capital Expenditure relating to security of supply is thus regarded as inadequately justified in terms of the requirements for adding this expenditure to the Capital Base, as set out in section 8.16(b) of the Code.

AlintaGas has not provided justification for "new gas supply" projects in terms of the requirements for adding this expenditure to the Capital Base, as set out in section 8.16(b) of the Code.

Expenditure related to both security of supply and new gas supply was estimated by AlintaGas on the basis of forecast unit rates for high pressure steel pipe. In support of the proposed rates, AlintaGas provided selected historical costs for high pressure pipelines where 150 mm and 200 mm mains had been laid. Whilst the resultant unit rates were generally consistent with the range of the proposed rates, data from only four projects involving 150 mm mains and one project involving 200 mm mains were available for the Regulator form an opinion on the unit rates. The Regulator considers that the sample sizes are too small to provide reliable estimates of historical unit rates for these types of mains. The Regulator was therefore unable to determine that the proposed expenditure is consistent with an amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of delivering Services, consistent with section 8.16(a) of the Code.

While AlintaGas has not provided adequate information to determine whether the proposed Capital Expenditure on the high pressure system is likely to meet the criteria for addition of the expenditure to the Capital Base set out in section 8.16 of the Code, the Regulator will allow expenditure on the high pressure system for the purposes of the Access Arrangement and the determination of Reference Tariffs. However, the Regulator will require justification of the relevant New Facilities Investment before adding the Capital Expenditure to the Capital Base at the time of review of the Access Arrangement.

In view of the uncertainty as to whether the proposed New Facilities Investment meets the requirements of section 8.16 of the Code, the Regulator contemplated the lower of bounds of the ranges of forecast unit rates (escalated for inflation[36]) as reflecting efficient practice and revising the AlintaGas cost forecasts downwards where the forecast rates are in excess of the lower-bound rates. This resulted in reductions to the forecast capital expenditure for the years 2000 to 2002. The revised capital expenditure for the high pressure system is as follows.

Revised Capital Expenditure for high pressure mains capacity reinforcement and new gas supply (nominal $million; year ending 31 December)

	2000	2001	2002	2003	2004	Total
Proposed by AlintaGas	4.0	3.6	3.0	2.6	2.0	15.2
Revised by the Regulator	3.8	3.5	3.0	2.6	2.0	14.9

Medium/Low Pressure Mains

AlintaGas's forecast Capital Expenditure on the medium/low pressure system relates to three programs: an infill program, a capacity reinforcement program and a re-laying program. These three programs are examined separately below.

In-Fill Program

AlintaGas's medium/low pressure mains infill program is based on an AlintaGas policy for infill mains extension. The proposed capital expenditure on the medium/low pressure mains in-fill program is $1.6 million over the Access Arrangement Period.

Prior to commencement of the in-fill program in August 1998, the extension of the gas distribution systems in existing suburbs was largely undertaken in small increments to meet customer needs. AlintaGas justified the implementation of a planned in-fill program on the basis that it would reduce the cost of medium/low pressure mains installation, compared with the existing ad hoc approach, mainly through the achievement of scale economies.

The proposed unit rate for medium/low pressure mains to be installed as part of the infill program these works was noted by the Regulator to be much higher than both the unit rate originally proposed by AlintaGas under the in-fill program and the historical unit rate for ad hoc extensions. While some of the difference between the proposed and historical rates would be due to inflation, there is a significant real difference between the rates. This difference is inconsistent with a presumption that scale economies would be achieved through a consolidated in-fill program rather than ad hoc extensions.

AlintaGas provided discounted cash flow analyses in support of the in-fill program to Connell Wagner. Whilst the financial evaluations show that the projects achieve internal

[36] Rates escalated by 1.2 percent to 1999 and 2.5 percent per annum thereafter.

rates of return in excess of the proposed real pre-tax WACC, the calculations were made on the basis of unit rates that are lower than the proposed unit rate.

In view of the above, the Regulator considers that the proposed unit rate has not been adequately justified and appears inconsistent with an amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering Services, consistent with section 8.16(a) of the Code.

The actual 1996 unit rate, escalated to current dollar values,[37] appears more representative of an efficient cost. The proposed capital expenditure for the in-fill program has therefore been proportionately reduced, as follows.

Revised Capital Expenditure for the medium/low pressure in-fill program (nominal $million; year ending 31 December)

	2000	2001	2002	2003	2004	Total
Proposed by AlintaGas	1.1	0.5	0.0	0.0	0.0	1.6
Revised by the Regulator	0.4	0.2	0.0	0.0	0.0	0.6

Re-laying Program

AlintaGas's relaying program is derived from several reports related to unaccounted for gas. The proposed capital expenditure on the re-laying program for medium/low pressure mains is forecast at $12.7 million over the Access Arrangement Period.

The re-laying expenditure forecasts relate to the completion of the existing cast iron re-lay program and the initiation of a steel re-lay program in 2002.

The expenditure forecasts are based upon AlintaGas replacing cast iron and steel mains instead of using insertion techniques. AlintaGas provided reasons why the use of insertion would not be as cost-effective as using re-laying techniques. However, the Regulator considers that a more detailed demonstration of the cost-effectiveness of re-laying compared with insertion should be provided by AlintaGas, especially since the use of insertion has been technically and financially justified in other distribution networks in Australia and internationally.

The galvanised steel mains re-laying program has not been approved by the AlintaGas Board at the time of submission of the Access Arrangement, and AlintaGas has not provided justification for the proposed expenditure. On this basis, the Regulator considers that AlintaGas has not demonstrated that the proposed expenditure for the galvanised steel medium/low pressure mains re-laying program would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, and to

[37] Rates escalated by 1.3 percent to 1997, 0.0 percent to 1998, 1.2 percent to 1999, and 2.5 percent per annum thereafter.

achieve the lowest sustainable cost of delivering Services, as required by section 8.16(a) of the Code.

The Regulator considers that AlintaGas has failed to adequately justify the proposed Capital Expenditure for the relaying program in terms of the requirements of section 8.16 of the Code. However, given that the proposed expenditure is intended to reduce unaccounted for gas, and has been proposed on the basis of several reports, the Regulator is prepared to accept the proposed expenditure for the purposes of the Access Arrangement and determination of Reference Tariffs. Notwithstanding this, further justification that the proposed expenditure meets the requirements of section 8.16 of the Code will be required before the Regulator will approve the proposed Capital Expenditure being added to the Capital Base on review of the Access Arrangement.

Reinforcement Program

AlintaGas's expenditure forecast for the reinforcement program is based on an AlintaGas development plan for the medium pressure gas distribution system. The proposed capital expenditure on the capacity reinforcement program for medium/low pressure mains is $0.9 million over the Access Arrangement Period. The expenditure forecasts relate primarily to the upgrading of regulator sets to meet capacity requirements during peak winter conditions, based on assumed peak loads to residential and small-commercial customers and forecasts of market growth.

Connell Wagner advised that the unit rates assumed for regulator sets are within an expected range, however the assumptions of peak loads on which the system design is based have not been substantiated. Given the relatively minor level of the expenditure, the Regulator considers the forecast Capital Expenditure for the reinforcement program to be adequately justified for the purposes of determining Reference Tariffs. However, further justification and substantiation of assumptions may need to be provided before the Regulator would approve the addition of this investment to the Capital Base when the Access Arrangement is reviewed.

Mains Extensions for New Customer Connections

The proposed capital expenditure on medium/low pressure mains extensions for new residential customers is forecast at $22.0 million over the Access Arrangement Period, and is the second largest element of AlintaGas's capital expenditure program. The expenditure forecast is based on the product of forecast new connections over the Access Arrangement Period and an assumed unit rate for mains.

The new connection projections are based upon information provided by the Retail Marketing and Sales Division of AlintaGas. The Regulator is satisfied that the forecast numbers are generally consistent with current trends and estimates from other sources.

The unit cost rate proposed by AlintaGas for new medium/low pressure mains reflects a weighted average of an assumed cost of laying mains to new subdivisions and laying mains for ad hoc extensions, based on 80 percent and 20 percent weights for the two categories, respectively.

Connell Wagner has advised that the proposed unit rate for new medium/low pressure mains appears reasonable when compared with unit rates in other jurisdictions. However, since unit

cost rates are affected, *inter alia*, by geological conditions, it is expected that unit rates will vary between jurisdictions, making direct comparisons of limited value. Given this, the Regulator considered that a more appropriate assessment of the unit rate was to compare the proposed unit rate with AlintaGas's historical unit cost rates for laying new medium/low pressure mains. The historical information was provided on a confidential basis by AlintaGas for comparison purposes.

The historical trend in unit cost rates for medium/low pressure mains laying has been downward over the last four years. The rate proposed by AlintaGas is 14 percent higher than the historical average (in nominal terms) and 17 percent higher than the average rate for 1999. This difference is substantially in excess of that which could be accommodated by correction for inflation.

The Regulator considers that AlintaGas has not adequately demonstrated that the proposed unit rate is consistent with efficient costs. On the basis of the analysis of historical unit rates for mains laying, the Regulator considers that annual unit rates consistent with an inflation-corrected actual average rate for 1999 would be more consistent with an estimate of efficient costs.[38] Revised Capital Expenditure estimates for mains extensions for new customer connections are as follows.

Revised Capital Expenditure for mains extensions for new customer connections (nominal $million; year ending 31 December)

	2000	2001	2002	2003	2004	Total
Proposed by AlintaGas	4.0	4.2	4.5	4.6	4.7	**22.0**
Revised by the Regulator	3.5	3.7	4.0	4.1	4.2	**19.5**

Other Components of Capital Expenditure

The following components of Capital Expenditure were also examined.

Capital expenditure item	Total forecast cost (nominal $million)
Meters and service pipes	38.9
Telemetry and monitoring systems	0.7
Information systems	7.9
Vehicles plant and equipment	6.8
Buildings	0.5

[38] An annual inflation rate of 2.5 percent is assumed for the purposes of revising the forecast Capital Expenditure.

On the basis of advice from Connell Wagner, the Regulator considers forecast expenditure in these categories to be adequately justified for the purposes of determining Reference Tariffs.

Conclusion

In general, the Regulator considers that the forecast Capital Expenditure is inadequately substantiated in terms of the requirements set out in section 8.16 of the Code. Notwithstanding this, the Regulator accepts that New Facilities Investment of the types proposed by AlintaGas may meet the requirements of section 8.16(b) of the Code in respect of net benefits accruing from that investment.

The Regulator accepts AlintaGas's proposed New Facilities Investment for the purposes of determining Reference Tariffs, but has revised downwards the forecast Capital Expenditure to reflect unit rates considered to be consistent with efficient costs. The revised schedule of Capital Expenditure is as follows.

Revised Capital Expenditure (nominal $million; year ending 31 December)

Type of investment	2000	2001	2002	2003	2004	Total
High pressure mains	3.8	3.5	3.0	2.6	2.0	**14.9**
Medium/low pressure mains:						
Capacity reinforcement	0.3	0.1	0.2	0.2	0.1	**0.9**
Infill	0.5	0.2	0.0	0.0	0.0	**0.8**
Re-laying program	2.2	2.5	1.12	0.0	0.0	**5.9**
Mains extensions	3.5	3.7	4.0	4.1	4.2	**19.5**
Meters and service pipes	8.2	7.8	7.8	7.6	7.5	**38.9**
Telemetry and monitoring systems	0.1	0.1	0.1	0.3	0.1	**0.7**
Equipment and vehicles:						
Information systems	3.8	1.4	0.5	1.6	0.6	**7.9**
Vehicles, plant and equipment	3.0	1.1	0.8	1.2	0.7	**6.8**
Buildings	0.1	0.1	0.1	0.1	0.1	**0.5**
Total	**25.5**	**20.5**	**17.7**	**17.7**	**15.3**	**96.6**
Total proposed by AlintaGas	**26.8**	**21.4**	**19.5**	**20.9**	**18.5**	**107.2**

The following amendment is required before the Access Arrangement will be approved.

Amendment 29

The Access Arrangement and Access Arrangement Information should be amended to reflect Capital Expenditure of $96.6 million over the Access Arrangement Period, as described in this Draft Decision and reflecting reductions in forecast unit rates for New Facilities Investment.

It is reiterated that acceptance of forecasts of Capital Expenditure does not mean that the associated New Facilities Investment will automatically be added to the Capital Base after it has occurred. Rather, the Regulator will assess whether the investment meets the criteria of section 8.16 of the Code either at the time of review of the Access Arrangement or, if asked to do so by the Service Provider, at the time at which the investment takes place. In assessing any proposed additions to the Capital Base, the Regulator will require more rigorous demonstration that the investment meets the requirements of section 8.16 of the Code.

5.5 NON-CAPITAL COSTS

5.5.1 Access Code Requirements

Section 8.36 of the Code defines Non-Capital Costs as the operating, maintenance and other costs incurred in the delivery of a Reference Service.

Section 8.37 of the Code provides for a Reference Tariff to recover all Non-Capital Costs (or forecast Non-Capital Costs, as relevant) except for any such costs that would not be incurred by a prudent Service Provider, acting efficiently, in accordance with accepted and good industry practice, and to achieve the lowest sustainable cost of delivering the Reference Service.

5.5.2 Access Arrangement Proposal

AlintaGas provided details of expected Non-Capital Costs in section 4 of the Access Arrangement Information, summarised as follows.

AlintaGas forecast Non-Capital Costs
(nominal $million; year ending 31 December)

Category	2000	2001	2002	2003	2004	Total
Wages and salaries	12.1	12.4	12.8	13.2	13.5	**64.0**
Materials and supply	14.4	14.0	14.4	14.4	15.1	**72.3**
Outsourced services	1.5	1.5	1.5	1.6	1.6	**7.7**
Property taxes	0.2	0.2	0.2	0.2	0.2	**1.0**
Marketing	1.3	1.4	1.4	1.4	1.5	**7.0**
Corporate overheads	4.2	3.4	2.9	2.9	2.9	**16.3**
Unaccounted for gas	3.3	3.3	3.4	3.5	3.5	**17.0**
Total	**37.0**	**36.2**	**36.6**	**37.2**	**38.3**	**185.3**

The cost of providing listed ancillary services and other services are not included in the forecast Non-Capital Costs shown above. The forecast cost of providing these services is as follows.

Non-Capital Costs forecast for the provision of listed ancillary and other services (nominal $million; year ending 31 December)

Category	2000	2001	2002	2003	2004	Total
Listed ancillary services	0.6	0.6	0.6	0.7	0.7	**3.2**
Other services	0.8	0.8	0.8	0.8	0.8	**4.0**
Total	**1.4**	**1.4**	**1.4**	**1.5**	**1.5**	**7.2**

Non-Capital Costs include the costs of unaccounted for gas. Unaccounted for gas is defined as the difference between the measurement of the quantity of gas delivered into the AlintaGas network in a given period, and the measurement of the quantity of gas delivered from the AlintaGas network during that period. AlintaGas identify the main contributors to unaccounted for gas as measurement errors associated with more than 416,000 meters at delivery points, and operational losses. AlintaGas has indicated that unaccounted for gas on the AlintaGas network is approximately 3 percent of the volume of gas delivered from the network.

5.5.3 Submissions from Interested Parties

Unaccounted for Gas

- Australian Energy Advisors

  AlintaGas has suggested that a figure of 3.0 percent is an appropriate level of unaccounted for gas for which all network users ought to pay in the tariffs. In our experience, 3.0 percent is a high figure, compared with Victoria (2.1 percent) and New South Wales (2.4 percent). The higher figure for South Australia (4.5 percent) is reflective of problems caused by the corrosion of old cast iron and steel low-pressure pipes.

  We do not believe that it is appropriate for the operator of a regulated monopoly to simply pass through costs of this nature. There needs to be suitable incentives for AlintaGas to manage the gas losses. In our view, the best approach is to set a challenging, but achievable, target in percentage terms, or in gigajoules lost per km or mains, and require the operator to meet the cost of replacing all gas in excess of this amount. The targets would require some level of benchmarking against other operations, and analysis of the sources of loss in the current networks. We would expect that a figure of close to 2.0 percent ought to be achievable, unless there are specific mitigating factors.

  Care needs to be taken in setting the target and the incentives because the operator must be prevented from undertaking uneconomic capital investment to alleviate the problem for which the operator would receive a guaranteed capital return.

- Office of Energy

  Unaccounted for gas is defined as the difference between the measurement of the quantity of gas delivered into the AlintaGas distribution network in a given period and the measurement of the quantity of gas delivered from the AlintaGas distribution network during that period. AlintaGas lists a number of reasons for the difference, including system line pack variations. The Office of Energy considers that system line-pack variations should not contribute to unaccounted for gas.

- Office of Energy

  AlintaGas argues that the non-capital costs, including unaccounted for gas, are fixed costs given that these do not vary materially with the throughput of the AlintaGas distribution network. AlintaGas purchases and transports via the Dampier to Bunbury Natural Gas Pipeline gas for replacing gas lost as unaccounted for gas. Forecasts of the costs of the gas purchased and transported are included in the non-capital costs for

recovery through the Reference Tariffs. Given "unaccounted for gas" for all purposes is calculated as a percentage of throughput it would not be appropriate to be considered a fixed cost.

The Regulator's assessment of the unaccounted for gas proposed by AlintaGas is described below under "Additional Considerations of the Regulator". The Regulator considers that the levels of unaccounted for gas projected by AlintaGas are higher than current recorded levels and do not reflect the current programs of pipe replacement that would be expected to reduce unaccounted for gas. The Regulator considers it reasonable to assume levels of unaccounted for gas of 2.7 percent in 2000, decreasing to 2.5 percent by 2004.

In general terms, non-capital costs do not vary materially with gas throughput. AlintaGas has included the costs associated with unaccounted for gas as a non-capital cost. However, since the cost of unaccounted for gas is determined in part by the volume of gas delivered through the system, the cost of unaccounted for gas is to some extent a variable cost. The distinction is not, however, of material significance for the purposes of determining Reference Tariffs.

Corporate Overhead Costs

- Office of Energy

  In 2000, corporate overheads are estimated at $7.5 million (with $4.2 million allocated to the distribution business) declining to $5.9 million ($3.4 million allocated to distribution) in 2001 and $5.1 million ($2.9 million to distribution) in 2002. AlintaGas has provided no reason for the decrease in these costs over the period of the Access Arrangement. The Regulator would need to be satisfied that $7.5 million (with $4.2 million allocated to distribution) for corporate overheads in 2000 is not an indication of inefficiency.

AlintaGas's forecasts of corporate overhead costs reflect potential efficiency improvements identified in an external consultant's study of potential efficiency gains in AlintaGas. AlintaGas has accepted these recommendations and included the benefits in its budget forecast. In view of the forecast improvements in efficiency and reductions in costs, the Regulator has not considered it reasonable to reduce the allowed costs in the early years of the Access Arrangement Period before the efficiency improvements can be implemented. Nevertheless, the Regulator has revised the schedule of efficiency improvements proposed by AlintaGas to bring forward the timing of improvements and resultant cost savings. This is further discussed below under "Additional Considerations of the Regulator".

5.5.4 Additional Considerations of the Regulator

In considering the Non-Capital Costs proposed by AlintaGas, the Regulator assessed whether these costs may meet the requirements of section 8.37 of the Code, that is, whether the proposed costs are consistent with the costs that would be incurred by a prudent Service Provider, acting efficiently, in accordance with accepted and good industry practice, and to achieve the lowest sustainable cost of delivering the Reference Services. In undertaking the assessment, the Regulator notes that the forecasts of Non-Capital Costs do not limit or constrain AlintaGas as to the level or composition of Non-Capital Costs actually realised over the Access Arrangement Period. For this reason, the Regulator gave attention to both the total level of Non-Capital Costs that will be recognised in the derivation of Reference Tariffs, and the individual components of the forecasts.

The Regulator's assessment of the forecast Non-Capital Costs comprised:

- an assessment of time trends in the total Non-Capital Costs;

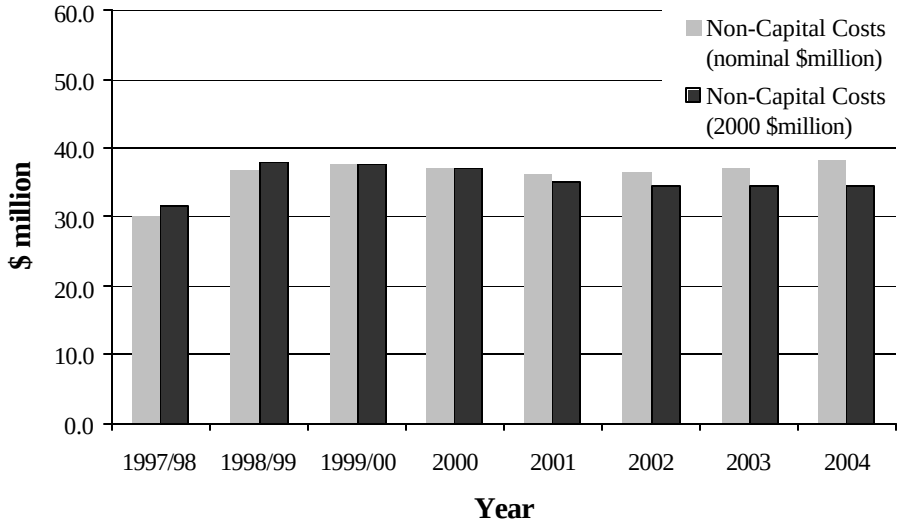
- a comparison of Non-Capital Costs across different distribution systems; and
- an assessment of individual cost components and the assumptions for cost forecasts.

The assessment included the receipt of advice from Connell Wagner based on:

- a review of the methodologies employed by AlintaGas and the reasonableness of the input assumptions used to calculate the proposed operating expenditure forecasts for each category of activity; and
- a review of the forecast operating expenditure in terms of whether it conformed to the requirements of the Code.

Time Trends in Non-Capital Costs

Historical and projected Non-Capital Costs for the AlintaGas distribution systems are shown in the figure below. Historical Non-Capital Cost budgets for the AlintaGas distribution systems were only made available from 1997/98. AlintaGas claims that prior to this year, the budgets for operation of the DBNGP and the distribution systems were combined. The historical budgets indicate a significant increase in Non-Capital Costs between 1997/98 and 1998/99 which AlintaGas has attributed to costs associated with the development of Access Arrangements; increases in information technology costs as a result of a number of factors including revision of allocation methodologies and introduction of new systems; increases in costs of unaccounted for gas due to more realistic calculation of costs; increases in corporate overhead costs due to a change in allocation methodology; and bonus and redundancy payments to employees. Total Non-Capital Costs are projected to decline in nominal and real terms to 2001 and then increase in nominal terms but remain approximately constant in real terms.



Historical and Projected Non-Capital Costs

Cost Comparisons Across Distribution Businesses

The Regulator compared Non-Capital Costs with other gas distribution systems in Australia.

Comparative data on Australian distribution systems are indicated below. For the systems other than AlintaGas, these data were compiled from approved Access Arrangements (Multinet, Westar, Stratus and Great Southern Energy Networks), a final decision on an Access Arrangement (Albury Gas Company), and a draft decision (AGL Gas Networks Limited).

Comparison of Non-Capital Costs across Australian distribution systems.

Service provider	**AGC (NSW)**	**Multinet (Vic)**	**Westar (Vic)**	**Stratus (Vic)**	**GSN (NSW)**	**AGLGN (NSW)**	**AlintaGas (proposed)**
Data year	1999	1998	1998	1998	1999	1999/00	**2000**
System Characteristics							
Customers	15,934	586,703	417,000	404,400	14,341	813,133	**416,299**
km of mains	325	8,736	7,223	7,314	525	20,830	**10,495**
Customers per km of mains	48.8	67.2	57.1	56.7	27.3	39.0	**39.7**
Gas transported per km of mains (TJ/km/year)	8.8	6.7	10.1	7.8	3.0	4.7	**2.7**
Non-Capital Cost Comparisons							
Non-Capital Costs ($million)	1.0	45.8	38.1	40.8	1.7	117.3	**37.0**
Non-Capital Costs ($/GJ delivered)	0.36	0.78	0.52	0.71	1.09	1.19	**1.33**
Non-Capital Costs ($/km of mains)	3,138	5,243	5,2751	5,578	3,293	5,631	**3,525**
Non-Capital Costs ($/customer)	64	78	92	98	121	144	**89**

Different definitions of Non-Capital Costs between service providers and different years of data result in the Non-Capital Costs not being strictly comparable. Nevertheless, the comparative data indicate that the Non-Capital Costs proposed by AlintaGas are relatively high on a "per gigajoule of gas delivered" basis, but relatively low on a "per kilometre of mains" basis and a "per customer" basis. The high "per gigajoule" Non-Capital Costs are consistent with the relatively low per-household use of gas in Western Australia, and a relatively low quantity of gas delivered by the AlintaGas distribution systems to large industrial customers.

Assessment of Individual Components of Non-Capital Costs

AlintaGas divided Non-Capital Costs into the following categories:

- wages and salaries;

- materials and supply;
- outsourced services;
- property taxes;
- marketing;
- corporate overheads; and
- unaccounted for gas.

The Regulator had concerns with several assumptions on which the costs in these categories were based, viz:

- scheduling of efficiency gains, affecting costs in the wages and salaries and materials and supply categories;
- costs associated with "open access management", affecting costs materials and supply category;
- costs associated with business development and ringfencing, affecting costs in the wages and salaries and materials and supply categories;
- levels and costs of unaccounted for gas;
- levels of outsourcing of services; and
- costs of computing and information-technology services, affecting costs in the materials and supply category.

The Regulator's concerns in regard to each of these matters are discussed below.

Scheduling of Efficiency Gains

Forecasts of Non-Capital Costs are in part based on an external consultant's study (commissioned by AlintaGas) of AlintaGas's five year operating and maintenance costs. Their review recommended adopting several efficiency improvements in operations, which AlintaGas has generally endorsed and which underscore the efficiency gains that give rise to reductions in operating costs over the Access Arrangement Period. The principal areas of efficiency gains incorporated by AlintaGas into forecasts of Non-Capital Costs were:

- reduction in costs of work planning and scheduling by 15 percent over five years; and
- reduction in costs of maintenance activity by 10 percent over five years.

AlintaGas has made allowance for the efficiency improvements and resultant reductions in operating expenditure, implemented progressively over the five year Access Arrangement Period. Connell Wagner advised the Regulator that it concurs with the opinion of AlintaGas's consultant that these efficiency gains could be implemented over a three-year as opposed to a five-year period. On the basis of this advice, the Regulator prepared a revised schedule for efficiency gains. The revised efficiency gains are based on the attainment of a

10 percent reduction in maintenance activity and 15 percent improvement in maintenance efficiency over a three-year period. The scheduling of cost savings over three years as opposed to five years would result in a reduction to the proposed operating expenditure of $2.0 million over the Access Arrangement Period.

The Access Arrangement Information does not specify the expenditure categories that have been adjusted to include the cost savings arising from the efficiency gains. The Regulator considers that the cost savings may be concentrated in "wages and salaries" and "materials and supply" and has assumed an 80 percent:20 percent allocation of cost savings between the two categories.

On the basis of the accelerated implementation of efficiency improvements and the allocation assumptions between expenditure categories, the following potential reductions in expenditure have been estimated by the Regulator.

Reduction in Non-Capital Costs arising from a revised schedule of efficiency gains (nominal $million; year ending 31 December)

Category	2000	2001	2002	2003	2004	Total
Wages and Salaries	0.193	0.454	0.611	0.353	0.000	1.610
Materials and Supply	0.048	0.113	0.153	0.088	0.000	0.402
Total reduction	**0.241**	**0.567**	**0.764**	**0.441**	**0.000**	**2.012**

Open Access Management

The proposed operating expenditure for "Materials and Supply" makes provision for "open access management" costs amounting to several million dollars over the Access Arrangement Period. The proposed expenditure covers expected consulting fees for the annual review of the Access Arrangement, billing and customer profiling, legal fees and licenses. No justification for the forecast expenditure has been sighted.

The Regulator considers that the proposed expenditure for open access management appears excessive for a number of reasons, outlined as follows.

- Consulting Fees for Annual Review.

  There appears no basis for the inclusion of consulting fees in relation to an annual review of the Access Arrangement. The Access Arrangement must be reviewed if a (pre-defined) major event triggers a review or the Service Provider requests a review. The Access Arrangement must also be reviewed at the end of the Access Arrangement Period in 2004. Since a review may never actually be triggered or requested within an Access Arrangement Period, it is difficult to make provision for such an eventuality in advance. The review of the Access Arrangement in 2004, however, is mandatory and AlintaGas has made separate provision (in 2004) in the forecast operating expenditure to cover the cost of reviewing the Access Arrangement, which will mainly cover consulting fees.

- Billing and Customer Profiling.

  Costs related to billing and customer profiling should form part of normal business administration activities since they are not specific to open access management. Indeed, since the number of individual traders that AlintaGas Distribution deals with is not expected to change materially during the years prior to deregulation of the gas distribution market, no additional costs are expected to be incurred as an immediate consequence of open access. Once deregulation occurs, it is reasonable to expect that the new information technology systems may enable efficiencies to be captured by AlintaGas in customer billing and profiling, offsetting any increase in costs associated with an increase in trader numbers. In any case, the new information technology systems that are being implemented should enable billing and customer profiling to be undertaken at near-zero marginal cost.

- Legal Fees and Licenses.

  The costs related to legal fees and licences should form part of normal business administration activities and are not specific to managing the process of open access. In addition, the cost associated with licenses is not expected to be material. For example, the current cost of a distribution licence, as set out in the *Energy Coordination (Licensing Fees) Regulations 1999*, for a distribution network of 100 km or more is $5,000 per annum.

The Regulator considers that AlintaGas has not adequately demonstrated that the forecast expenditure for open access management is consistent the requirements of section 8.37 of the Code.

Business Development and Ring-Fencing Costs

The forecast Non-Capital Costs include an allocation of approximately $2 million for business development and ring fencing from 2002 onwards.

AlintaGas did not provide any formal justification for the forecast expenditure on business development and ring fencing. The Regulator is concerned that business development and ring-fencing activities may already be included within the "marketing" and "corporate overheads" expenditure categories. In addition, it is noted that such costs have not generally been explicitly allowed for in Access Arrangements for other distribution systems in Australia, although a substantial allowance for "contestability" costs ($6.4 to $7.8 million per annum) was included in forecast Non-Capital Costs by AGL Gas Network Limited for the New South Wales distribution systems.[39]

The Regulator considers that AlintaGas has not adequately demonstrated that the planned expenditures are consistent with the requirements of section 8.37 of the Code.

Unaccounted for Gas

The operating expenditure specific to unaccounted for gas is based on a benchmark unaccounted for gas of 3.0 percent of the volume of gas transported through the distribution

[39] IPART, Draft Decision on the AGL Gas Network Limited Natural Gas System in NSW (October 1999).

network. Over the Access Arrangement Period, the operating expenditure specific to unaccounted for gas amounts to $17.0 million, which is equivalent to 9.2 percent of total proposed operating expenditure over the Access Arrangement Period.

Proposed Non-Capital Costs related to unaccounted for gas

Category	2000	2001	2002	2003	2004
Total gas volume (TJ)	27,824.9	27,783.8	28,077.0	28,722.8	29,207.8
Unaccounted for gas (percent)	3.0	3.0	3.0	3.0	3.0
Unaccounted for gas (TJ)	834.7	833.5	842.3	861.7	876.2
Total cost of unaccounted for gas (nominal $million)	3.3	3.3	3.4	3.5	3.5
Implied gas and transmission cost (nominal $/GJ)	3.95	3.96	4.04	4.06	3.99

The assumption of a 3 percent level of unaccounted for gas appears to be inconsistent with actual records. Since 1997, AlintaGas has operated a reporting system for unaccounted for gas that provides monthly reports by region. The highest reported unaccounted for gas in this period has been 2.7 percent of total gas inflow to the system, considerably lower than the 3.0 percent used as a basis for the forecast cost of unaccounted for gas. The 1999 AlintaGas annual report (p14) indicates levels of unaccounted for gas over the last two financial years of 2.1 percent and 2.5 percent over all distribution networks, although subsequent to this report AlintaGas found that there were errors in its method of calculation and the corrected figures are 2.4 percent and 2.7 percent.

Levels of unaccounted for gas are also expected to be reduced as a result of the progressive replacement of the cast iron and galvanised steel mains. The Regulator has been advised by Connell Wagner that as a result of these replacement program, the operational losses have gradually decreased.

The Regulator considers that AlintaGas has not demonstrated that a benchmark level of unaccounted for gas of 3.0 percent is appropriate for the AlintaGas distribution network. On the basis of technical advice and having regard to the proposed replacement of cast iron and galvanised steel pipes, the Regulator considers it reasonable to assume levels of unaccounted for gas of 2.7 percent in 2000, decreasing to 2.5 percent by 2004. The revised forecasts of costs for unaccounted for gas are as follows.

Revised Non-Capital Costs related to unaccounted for gas
(nominal $million; year ending 31 December)

Category	2000	2001	2002	2003	2004
Total gas volume (TJ)	27,824.9	27,783.8	28,077.0	28,722.8	29,207.8
Unaccounted for gas (percent)	2.7	2.7	2.6	2.6	2.5
Unaccounted for gas (TJ)	751.3	750.2	730.0	746.8	730.2
Gas and transmission cost (nominal $/GJ)	3.95	3.96	4.04	4.06	3.99
Total cost of unaccounted for gas (nominal $million)	**3.0**	**3.0**	**2.9**	**3.0**	**2.9**

Outsourcing of Services

In the review of Non-Capital Costs, Connell Wagner noted that AlintaGas outsource substantially less activities than other distribution businesses, particularly the Victorian distribution businesses. In view of this, there is some doubt as to whether AlintaGas has efficiently allocated activities between an in-house and contract work force. This matter was not, however, examined in detail in preparing the Draft Decision.

Computing and Information-Technology Services

AlintaGas has made provision for approximately $3.5 million per annum in computing costs within the material and supply cost category. Forecast costs incorporate reductions in these costs over the Access Arrangement Period. No justification is provided for these costs and the Regulator is not satisfied that the costs are consistent with the requirements of section 8.37 of the Code.

Conclusion

In assessing AlintaGas's forecast Non-Capital Costs, the Regulator has noted that the forecasts have been inadequately substantiated and justified in the Access Arrangement Information and in other information separately made available to the Regulator or to Connell Wagner for the purposes of assessment. Where the Regulator has been able to independently assess the cost forecasts or the underlying assumptions to these forecasts, as with projected efficiency gains and costs associated with unaccounted for gas, the forecasts appear to make inadequate allowance for reasonable efficiency gains and cost reductions over the Access Arrangement Period.

Notwithstanding the absence of adequate justification for the cost forecasts, the costs appear reasonable in comparison with Non-Capital Costs of other distribution systems. Furthermore, the time trend of Non-Capital Costs is for these costs to remain approximately constant in real terms over the Access Arrangement Period despite planned expansions to the distribution network and increases in customer numbers.

In view of the above, the Regulator will accept the forecast Non-Capital Costs subject to amendments to reflect implementation of efficiency improvements in operating and

maintenance over three rather than five years, and a reduction in unaccounted for gas to 2.5 percent by 2004.

The revised Non-Capital Costs are as follows.

Revised Non-Capital Costs
(nominal $million; year ending 31 December)

Category	2000	2001	2002	2003	2004	Total
Wages and salaries	11.9	11.9	12.2	12.8	13.5	**62.4**
Materials and supply	14.4	13.9	14.2	14.3	15.1	**71.9**
Outsourced services	1.5	1.5	1.5	1.6	1.6	**7.7**
Property taxes	0.2	0.2	0.2	0.2	0.2	**1.0**
Marketing	1.3	1.4	1.4	1.4	1.5	**7.0**
Corporate overheads	4.2	3.4	2.9	2.9	2.9	**16.3**
Unaccounted for gas	3.0	3.0	2.9	3.0	2.9	**14.8**
Total	**36.4**	**35.2**	**35.4**	**36.3**	**37.7**	**181.1**
AlintaGas proposed total Non-Capital Costs	**37.0**	**36.2**	**36.6**	**37.2**	**38.3**	**185.3**

The following amendment is required before the Access Arrangement will be approved.

> Amendment 30
>
> The Access Arrangement and Access Arrangement Information should be amended to reflect Non-Capital Costs of $181.1 million over the Access Arrangement Period, as described in this Draft Decision and reflecting more rapid implementation of efficiency gains and lower levels of unaccounted for gas.

5.6 RATE OF RETURN

5.6.1 Access Code Requirements

Sections 8.30 and 8.31 of the Code set out the principles for establishing the Rate of Return for an existing covered pipeline when a Reference Tariff is first proposed for a Reference Service. These principles apply to the proposed Access Arrangement for the AlintaGas distribution systems.

Section 8.30 of the Code requires that the Rate of Return used in determining a Reference Tariff should provide a return which is commensurate with prevailing conditions in the market for funds and the risk involved in delivering the Reference Service (as reflected in the

terms and conditions on which the Reference Service is offered and any other risk associated with delivering the Reference Service).

Section 8.31 states that, by way of example, the Rate of Return may be set on the basis of a weighted average of the return applicable to each source of funds (equity, debt and any other relevant source of funds). Such returns may be determined on the basis of a well accepted financial model, such as the Capital Asset Pricing Model. In general, the weighted average of the return on funds should be calculated by reference to a financing structure that reflects standard industry structures for a going concern and best practice. However, other approaches may be adopted where the Regulator is satisfied that to do so would be consistent with the objectives contained in section 8.1 of the Code, as listed in section 5.1 of this Draft Decision.

Overall, the Regulator is required to ensure that the Rate of Return used in determining Reference Tariffs should be at a level that would be sufficient to motivate the Service Provider's investment in the pipeline assets, but which is not unduly in excess of this level.

5.6.2 Access Arrangement Proposal

For the purposes of determining Total Revenue, AlintaGas calculated the return on each group of assets that form the AlintaGas network by applying a pre-tax real rate of return to the current cost accounting value of that group of assets at the beginning of each year.

The rate of return was calculated as a weighted average of the returns (weighted average cost of capital or WACC) applicable to the assumed levels of equity and debt used to finance the assets which form the AlintaGas network. AlintaGas's calculation of the WACC is described in sections 3.7 to 3.11 of the Access Arrangement Information.

Capital Asset Pricing Model (CAPM) theory was used to derive the WACC. The parameter values used by AlintaGas in its calculation of the WACC are presented in the table below. On the basis of these input assumptions, AlintaGas has proposed a real pre-tax WACC of 8 percent.

AlintaGas estimation of the Rate of Return

Capital asset pricing model parameter	Value used by AlintaGas
Risk free rate (Nominal)	5.65%
Risk free rate (Real)	3.07%
Market risk premium	6.50%
Equity beta	0.85
Debt beta	0.235
Cost of debt margin	1.53%
Corporate tax rate	36%
Franking credit value	30%
Debt to total assets ratio	55%
Equity to total assets ratio	45%
Expected inflation	2.5%

5.6.3 Submissions from Interested Parties

Public submissions raised matters of concern in respect of the values of input variables assumed by AlintaGas for the WACC calculation, and the proposed value of the WACC. These matters are addressed below.

Asset and Equity Beta Values

AlintaGas proposed a range for the equity beta of between 0.77 and 1.01 (for an assumed level of gearing of 55 percent), and adopted an equity beta of 0.85 in its WACC calculation. AlintaGas's proposed equity beta equates to an asset beta of about 0.51. AlintaGas did not state a range for the asset beta, but an interpretation of its proposed parameters suggest that its range for the asset beta was between about 0.47 and 0.63.[40]

- Australian Energy Advisors

  AlintaGas note that their equity beta figure of 0.85 is consistent with the figure approved by ORG in the regulatory decisions for the Victorian gas distributors. The figure of 0.85 was used in the draft decisions, but increased to 1.20 in the final decisions to respond to perceived increased risks arising from the regulatory regime, market immaturity and the difficulty in quantifying diversifiable risks. There is

[40] The range for the asset beta has been derived by combining all of the 'low beta' parameters (low equity beta, low debt beta, high gearing) to get the low end of the range, and converse for the high range. The following levering/delevering methodology has been used to derive the asset beta:

$$b_a = b_e \frac{E}{V} + b_d \frac{D}{V}.$$

This levering/delevering methodology has been used consistently throughout this Draft Decision.

insufficient information in the AlintaGas proposal to ascertain whether their intention is to remove any claim for these additional risks.

- Australian Energy Advisors

  AlintaGas has suggested that the equity beta may be understated if the risk of by-pass of the network is higher in Western Australia than in Victoria. This is unlikely to be the case because (a) AlintaGas has reduced the risk of by-pass by basing their tariffs on a volume × distance formula; and (b) the risk of by-pass in Victoria is augmented by the risk of network transfer, which is not possible in Western Australia.

- Office of Energy

  The Regulator would need to review and assess the equity beta being used and whether or not it adequately reflects the risk of the business with regard to:

  i. the growth being experienced in and increased marketing opportunities resulting from full deregulation of the gas market in Western Australia over the next five years.

  ii. the proposal to sell AlintaGas distribution/retail as a stapled business; and

  iii. the reduced risk of by-pass for the AlintaGas distribution pipeline from the likelihood of an interconnection of the distribution systems with the Parmelia pipeline.

The Regulator's assessment of the asset beta proposed by AlintaGas is summarised below under "Additional Considerations of the Regulator". On the basis of financial advice, the Regulator considers that an appropriate range for the asset beta is between 0.45 and 0.60. Given possible risks borne by AlintaGas arising from low market penetration and high average costs (due to relatively low customer density and low average gas usage), an asset beta of 0.55, which lies towards the upper end of this range, has been used to estimate AlintaGas's WACC. This asset beta corresponds to an equity beta of 1.05 which is greater than the value of 0.85 proposed by AlintaGas. In increasing the asset beta and equity beta above the values proposed by AlintaGas, the Regulator recognised similar risk factors as identified by the Victorian Office of the Regulator General in its assessment of Access Arrangements for the Victorian distribution systems.

The Regulator's assessment of the cost of debt proposed by AlintaGas is summarised below under "Additional Considerations of the Regulator". On the basis of financial advice, the Regulator considers that for the purposes of deriving a proxy debt beta for AlintaGas, a debt margin of 1.3 percent is appropriate. Although slightly above the range of the margins that have been adopted recently by other regulators, this rate is consistent with that recently adopted by market analysts.[41]

- Combustion Air Pty Ltd

  The Victorian Office of the Regulator General, via a press release dated October 6, 1998, commented on the rate of return of capital under the Code. The media release highlights, at p. 2., the cost of "new and untested regulatory regimes":

  "... The increase in the rate of return results mainly from the increased risk premium adopted ... to reflect the Office's reassessment of a number of potential risk factors identified in submissions and the conferences. These include ... risks associated with the immaturity of the gas market reforms and the gas industry structural arrangements, a new and untested regulatory regime and the presence of a range of

[41] CS First Boston, May 1999, Valuation report on AGL.

potentially diversifiable or insurable risks which cannot be readily included in cash flows. ... Examples of such insurable risks include natural disasters that may cause major infrastructure dislocations. The recent explosion at Esso/BHP's Longford plant indicates the impact that such events can have on gas flows and thus cash flows ...".

ORG made these comments when increasing the asset beta from the draft decision value of 0.4 by some 40 percent to 0.55 in the final decision for the Victorian Access Arrangements. There is some concern that ORG has misunderstood gas safety as being a diversifiable risk. Insurance cannot, and should not, be relied upon to replace mandatory inspection, approval and certification.

The matters of "risk" considered in determination of asset beta values relate to commercial and financial risks of a Service Provider. Although the factors affecting such risk may indirectly include operational matters such as safety issues and associated potential liabilities, asset betas are determined on the basis of aggregate financial measures. Diversifiable risk does not relate to directly matters such as safety, but rather relates to commercial risks to a business that may be reduced by prudent business management that would include diversification of activities and investments, and a consequent reduction in financial exposure to such factors as market downturns.

The recognition of "disaster" risks in assigning a value to the asset beta does not detract from the gas safety obligations of the Service Provider. Rather, it recognises that such risks embody substantial financial risks for a Service Provider and its shareholders, and the rate of return on assets needs to recognise this risk.

Market (Equity) Risk Premium

AlintaGas has used a market premium of 6.5 percent. The Access Arrangement has stated that this is the midpoint of estimates of the historical premium (over the 10 year Commonwealth bond rate) of between 6 percent and 7 percent.

- Australian Energy Advisors

  The market risk premium is normally taken as being between 5 percent and 7percent. In recent Australian regulatory hearings, an appropriate figure has most usually been taken to be 6.0 percent. Increasing the figure to 6.5 percent would take special arguments, in our view, none of which have been put forward by AlintaGas.

- Office of Energy

  The assumed typical market risk premium of 6.5 percent appears to be consistent with accepted industry values though higher than regulatory decisions for the Victorian gas transmission and distribution arrangements. The Regulator needs to be satisfied that there is wide acceptance of 6.5 percent as used by AlintaGas.

The Regulator's assessment of the market (equity) risk premium proposed by AlintaGas is summarised below under "Additional Considerations of the Regulator". On the basis of financial advice, the Regulator considers a value within the range of 5 percent to 6 percent should be used. While IPART and the ACCC have used 5.5 percent in their most recent decisions, it is suggested that 6 percent be used given that this is supported by the weight of regulatory precedents to date (in the form of Final Decisions) and as this is within the range implied by historical estimates.

Risk-Free Rate and Inflation Rate Forecast

AlintaGas assumed a nominal risk free rate of 5.65 percent and adopted an inflation rate forecast of 2.5 percent, implying a real risk free rate of 3.07 percent. The assumed nominal risk free rate was based upon the yield to maturity on 10 year Commonwealth Government bonds, averaged over the previous 12 months. The source of its inflation forecast was not stated in the Access Arrangement.

- Australian Energy Advisors

  The ACCC and ORG have suggested that the bond yields should be assessed over the period of two months prior to the decision. The use of any longer period is inappropriate as it implies that the history of the yields provides information about the future yield values (i.e. there is no random walk). The use of information derived close to the OffGAR decision date would be more appropriate.

- Australian Energy Advisors

  AlintaGas do not appear to have undertaken an analysis of the yield from Commonwealth capital indexed bonds. This should be included as a useful check.

- Office of Energy

  AlintaGas has not substantiated the method of averaging past bond yields over 12 months in calculating the risk free rate that is proposed.

- Office of Energy

  If the inflation rate is 2.5 percent then the real risk free rate is only 3.07 percent where the nominal risk free rate is assumed to be 5.65 percent. This is less than the real risk free rates assumed in other access regimes.

- Office of Energy

  The inflation rate assumed by AlintaGas of 2.5 percent differs from the Commonwealth Treasury forecast, contained in the budget, of 2.25 percent.

The Regulator's assessments of the real risk free rate and inflation rate forecast proposed by AlintaGas are summarised below under "Additional Considerations of the Regulator". On the basis of financial advice, the Regulator considers that the yield to maturity on 10 year Commonwealth Government Treasury Bonds should be used as a proxy for the nominal risk free rate and the yield to maturity on the 10 year Commonwealth Government Capital Indexed Treasury Bonds should be used as the proxy for the real risk free rate. The difference between these (calculated using the Fisher equation) should be used as the inflation forecast over the relevant period. The observed yield for the relevant bonds should be taken as the average of the most recent 20 trading days, as opposed to a 12 month period.

As at 5 March 1999, this gave a nominal risk free rate of 6.85 percent, a real risk free rate of 3.65 percent, and a forecast rate of inflation of 3.09%. These estimates have been used to revise the WACC for the Access Arrangement.[42]

[42] Estimates of the risk free rate and inflation rate will be updated prior to issue of a final decision.

Capital Structure (Debt-Equity Ratio)

AlintaGas assumed a financing structure comprising 55 percent debt and 45 percent equity for the determination of the WACC.

- Australian Energy Advisors

  The ratio of 55 percent has been suggested as the mid-point of the "defacto standard" said to be emerging in the electricity and gas industries in Australia. In our view, the defacto standard adopted by regulators is 60 percent. However, the more important point, in our view, is that the debt standards set by all the regulators appear to have been very conservative compared to the levels of debt which new owners of these assets appear to be willing to take on, which provide the new owners with windfall gains in the regulated entity. Accordingly, we see 60 percent as the lower end of the range which should be accepted by regulators.

- Office of Energy

  The standard debt to equity ratio for the gas transportation industry is considered to be 60/40, as has been considered reasonable in the past tariff determinations for AlintaGas. The OOE does not believe that AlintaGas has adequately substantiated changing the debt to equity ratio to 55/45.

The Regulator's assessment of the capital structure proposed by AlintaGas is summarised below under "Additional Considerations of the Regulator". On the basis of financial advice, the Regulator considers that a financing structure comprising 60 percent debt and 40 percent equity should be adopted, which ensures a comparable gearing ratio to that assumed in other regulatory decisions.

Cost of Debt (Debt Beta and Debt Margin)

AlintaGas has calculated its cost of debt by inserting an assumed debt beta of 0.235 into the CAPM equation. The resulting cost of debt margin is 1.53 percent. This approach to estimating the cost of debt is unconventional, particularly because debt betas cannot be observed in the market but are normally estimated by observing the market cost of debt directly and then "back calculated" using the CAPM equation.[43]

- Australian Energy Advisors

  The value chosen of 0.235 is much higher than calculations made in other gas regulatory hearings, which have ranged between 0.06 and 0.12. There is no information provided in the AlintaGas proposal to permit a reconciliation, but the difference is so great that it would suggest a different methodology is being used.

- Australian Energy Advisors

  The pre-tax premium on AlintaGas debt (1.53 percent) is much higher than the premium levels used in other hearings, which have been between 0.8 percent and 1.2 percent, and arises, presumably, because of the use of a very high debt beta. The use of a higher than normal premium is also inconsistent with the lower level of debt which AlintaGas has proposed. We would expect that a network operator in AlintaGas's position would not have to pay a premium much above 1.0 percent. It is possible that the higher figure comes from confusing the role of AlintaGas as a gas distributor/retailer with the operations of a regulated network.

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[43] That is, $b_d = \dfrac{r_d - r_f}{market\ risk\ premium}$

- Office of Energy

  The debt premium or risk margin used by AlintaGas of 1.55 percent is substantially higher in comparison to that used in the determination of the Victorian gas access arrangements by the ACCC or ORG of 1.2 percent. The Office of Energy considers that further substantiation by AlintaGas is required.

The Regulator's assessment of the cost of debt proposed by AlintaGas is summarised below under "Additional Considerations of the Regulator". On the basis of financial advice, the Regulator considers that for the purposes of deriving a proxy debt beta for AlintaGas, a debt margin of 1.3 percent is appropriate. Although slightly above the values of debt margins that have been adopted recently by other regulators, this rate is consistent with that recently adopted by market analysts.[44]

Effective Tax Rate

In order to compensate for the cost of tax, AlintaGas has grossed-up its proposed post-tax nominal WACC by the current statutory tax rate (36 percent) in order to derive a pre-tax nominal WACC, and has then deducted inflation in order to derive the pre-tax real WACC.

- Australian Energy Advisors

  The full corporate tax rate of 36 percent has been chosen. This is clearly inconsistent with the levels of debt assumed and the likelihood of further deductions over the life of the network business. However, the approach has been accepted by other regulators owing to the difficulty of assessing future effective rates, and we would agree that it be used for consistency.

- Australian Energy Advisors

  The combination of a high nominal effective corporate tax rate of 36 percent and a low value of 0.30 placed on imputation credits, results in an unjustifiably high value for the effective tax rate, when attempting to set the appropriate pre-tax WACC. It is also inconsistent with the choice of a high 6.5 percent for the risk free rate of return.

The Regulator's assessment of the cost of tax proposed by AlintaGas is summarised below under "Additional Considerations of the Regulator". On the basis of financial advice, the Regulator considers that a corporate tax rate of 36 percent is appropriate.

The Regulator has given regard to other methods of treating taxation, namely use of an effective rate and flow-through and normalisation. Whilst the Regulator finds the use of flow-through and normalisation methods theoretically attractive, the Regulator is mindful of the practical complexities in implementing such methods and decided not to use these methods in this instance.

Imputation Credit Value

AlintaGas has assumed a "gamma" value of 0.3 (between 0.2 and 0.4). The derivation of this value is not described in the Access Arrangement Information.

[44] CS First Boston, May 1999, Valuation report on AGL.

- Australian Energy Advisors

  The figure suggested of 0.30 for the value of imputation credits is considerably lower than the 0.50 adopted in Victoria. No justification is provided for the lower figure adopted, and the final pre-tax WACC result is particularly sensitive to the assumptions made.

- Australian Energy Advisors

  The choice of 0.30 implies that the future owners will be predominantly overseas based, or otherwise incapable of utilising the franking credits. We do not believe that there is sufficient knowledge about the future to justify such an assumption, and then to write it into the corporation's future income base. In our view, a figure of 0.50 is probably appropriate when there is no certain knowledge about the company's actual shareholder base.

- Office of Energy

  The Office of Energy does not believe that AlintaGas has provided adequate substantiation of the gamma value used for dividend imputation of 30 percent. The Office considers that a more appropriate value is 50 percent.

The Regulator's assessment of the imputation credit value (gamma) proposed by AlintaGas is summarised below under "Additional Considerations of the Regulator". On the basis of financial advice, the Regulator considers that the gamma value should be set at 50 percent, which is consistent with other regulatory decisions in Australia.

Rate of Return

Based upon the values assumed for the determination of the WACC, AlintaGas has proposed a real pre-tax rate of return of 8.0 percent.

- Australian Energy Advisors

  The WACC calculation results in a very high requested figure of 8.0 percent pre-tax real, especially when compared with the ORG decisions in relation to Victorian Gas distributors. It is worth recognising that the WACC awarded in the Victorian decision was adjusted upwards from the original draft ORG figure of 7.0 percent to 7.75 percent pre-tax real, to meet the concerns of some stakeholders about anticipated additional risks arising from (i) an untested regulatory regime; (ii) the immaturity of gas market reforms and the industry structural arrangements; and (iii) diversifiable risks which cannot be readily quantified and included in cash flows. There is no evidence in the AlintaGas submission to demonstrate that it faces the additional risks listed above, or any other risks not measured in the Capital Asset Pricing Model (CAPM), and therefore there is no justification for it obtaining a return any higher than the draft decision by the Victorian ORG of 7.0 percent pre-tax real.

- North West Shelf Gas Pty Ltd

  With respect to the cost of capital the majority of submissions and consensus of opinion seems to suggest that for onshore gas reticulation or onshore gas transmission pipeline assets, the WACC should be no greater than 7 percent pre-tax real. Furthermore, there would seem to be no strong qualitative reasons that suggest that the systematic risk of the Western Australian assets would be any different to those in other parts of Australia or for that matter the world. That is, there is no basis for Western Australian onshore gas transmissions pipeline assets' WACC to be greater than the rates determined in Victoria.

On the basis of financial advice, the Regulator considers a real pre-tax WACC of 7.9 percent to be reasonable (equivalent to a nominal pre-tax WACC of 11.2 percent).

- Chamber of Minerals and Energy

  The rate of return depends directly on the asset base used and the revenue required. Under or over-stating of either of those factors could mean that a nominally acceptable WACC conceals unwarranted asset or revenue assumptions. The Chamber urges attention by OffGAR to these issues in particular as part of its deliberations as to whether the Reference Tariffs are fair and reasonable.

The methodology used by AlintaGas to value the Initial Capital Base is based on setting a value for the Initial Capital Base such that distribution revenues are maintained at similar levels to those forecast in the absence of the Access Arrangement. This value is dependent not only on forecast distribution revenues, but also assumptions as to capital costs, non-capital costs, depreciation and the rate of return. The methodology used to value the Initial Capital Base involved setting values of these parameters and solving for an Initial Capital Base so as to return a predetermined level of distribution revenue. Lower costs of providing distribution services, or a lower rate of return (i.e. lower WACC value) would result in a higher value being ascribed to the Initial Capital Base.

In assessing the proposed Access Arrangement, the Regulator gave consideration to all the parameters affecting the value ultimately assigned to the Initial Capital Base, and affecting Reference tariffs. This included considering the WACC value proposed by AlintaGas.

5.6.4 Additional Considerations of the Regulator

In assessing the derivation of the WACC by AlintaGas, the Regulator obtained advice from the Allen Consulting Group (ACG). This advice comprised:

- a review of the methodologies employed by AlintaGas and the reasonableness of the values adopted for specific variables, and suggestion of alternative values of variables where appropriate; and

- re-calculation of the cost of capital applicable to the AlintaGas distribution business based on values of input variables determined to be appropriate.

On the basis of the advice provided by ACG, the Regulator drew conclusions on appropriate values of input variables and the value of the WACC. The advice provided to the Regulator and the Regulator's assessment of the WACC is summarised as follows.

Calculation Methodology and CAPM Framework for WACC Determination

The Capital Asset Pricing Model (CAPM) is widely used by regulators overseas (particularly in the UK where it is used as the principal model for estimating the regulatory WACC), and is used extensively in both corporate finance and regulatory applications in Australia. The use by AlintaGas of CAPM theory to derive a WACC is therefore considered consistent with guidelines provided in section 8.31 of the Code.

The typical approach by Regulators to date has been to use the CAPM to derive the "target" post-tax return or WACC, and then to make adjustments to the WACC for the net cost of taxation. At its simplest level, the CAPM specifies the WACC for an asset as a rate of return that can be earned by a risk-free asset plus a risk premium for the asset in question. The risk premium depends upon the risk of the particular asset relative to the risk associated with a diversified asset portfolio. Analytically:

$$WACC = R_f + b_a(R_m - R_f)$$

where R_f is the risk free rate, $(R_m - R_f)$ is the expected risk premium above the risk free rate for the portfolio of all assets, and b_a is the measure of the particular asset's relative risk, or its asset beta.[45]

In practice, asset betas cannot be observed or measured directly. Estimating a beta requires historical information on the economic returns to an asset (comprising the value of the returns plus the change in the market value of the asset), and on economic returns to the well-diversified portfolio of assets. As this type of information is only available on assets that are traded on the stock exchange, the CAPM is used to estimate the required return to the equity share of an asset, and stock market indices are used as a proxy for the market portfolio. Accordingly, the more common formulation of the CAPM is the following:

$$R_e = R_f + b_e(R_m - R_f)$$

where R_f is still the risk free rate, but $(R_m - R_f)$ is now the expected risk premium above the risk free rate for a well-diversified portfolio of equities, b_e is the measure of the particular equity's relative risk, or its equity beta and R_e is the required return on that equity. The outcome of this model, therefore, is an estimate of the required after tax return to equity. The return required by the other source of financing – debt – can be observed directly from the market, and the average of these sources of financing (weighted by the respective shares of debt and equity in the financing of the asset) provides an estimate of the WACC for the asset. That is:

$$WACC = R_e \frac{E}{V} + R_d \frac{D}{V}$$

where $\frac{E}{V}$ and $\frac{D}{V}$ are equity and debt as shares of total assets, V, and R_d is the cost of debt.

There are, however, a number of different expressions for the WACC that can be presented as the Regulator's "target" return. The different expressions for the WACC are derived by transferring one or more particular costs or benefits from the cash-flows to the WACC. The different forms of WACC that are commonly used as regulatory targets are as follows.

- Post-Tax (Vanilla) WACC

  This form of WACC is an estimate of the total return that the asset owners demand, and requires all potential costs and benefits to be reflected in the cash-flows. Consequently, it is the simplest form of WACC, and is synonymous with the WACC expression above.

[45] Note that, under this version of the CAPM, there is no need for assumptions about the cost of debt or capital structure for the entity to estimate its WACC.

- Post-Tax (Officer) WACC

  This form of WACC is an estimate of the post-tax (cash) return on assets that the company needs to generate. This form of WACC overstates taxation liability because it assumes that all of the return on assets is taxed (whereas the portion that is distributed to debt providers is not taxed), and it provides shareholders with additional benefits through the dividend imputation system. Consequently, the Officer WACC is lower than the Vanilla WACC.

- Post-Tax (Monkhouse) WACC

  This form of WACC is an estimate of the post-tax return on assets that the company needs to generate, where the value of franking credits are counted as part of that return. Consequently, the Monkhouse WACC is higher than the Officer WACC as it includes the value of franking credits in measuring the required return.

Of the different WACC definitions, the Officer WACC is the most widely cited as the target WACC because this definition of WACC is commonly used for asset valuation and project evaluation. Many finance practitioners advocate the use of the Vanilla WACC as the regulatory target as it is the easiest to understand, and because it focuses on the total return that investors require, regardless of the source of the benefit. The Vanilla WACC is also often used in asset valuation exercises. The ACCC, on the other hand, focuses on the post-tax return on equity given that this measure of return appears to be the most widely understood by equity investors and is the measure of return that regulators in the USA generally consider.

The post-tax values of different forms of WACC values for the AlintaGas distribution systems are indicated below, calculated from the parameters assumed by AlintaGas. In contrast to regulatory practice to date in Australia, AlintaGas has presented the Monkhouse WACC as the target WACC without explaining that this is not comparable to the more common forms of WACC.

Alternative WACC values calculated from AlintaGas parameters

Intermediate Targets	Nominal	Real
Post-tax (Vanilla) WACC	9.0%	6.3%
Post-tax (Officer) WACC	6.8%	4.2%
Post-tax (Monkhouse) WACC	8.0%	5.3%

Asset and Equity Beta

The application of the CAPM requires an equity beta to be determined for AlintaGas's regulated business. Since AlintaGas is not a listed company, it is necessary to use a proxy beta, normally derived from estimates of betas for listed firms that are considered to have a comparable degree of systemic risk. Systematic risk relates to that portion of the variance in the return on an asset that arises from market-wide economic factors that affect returns on all

assets, and which cannot be avoided by diversifying a portfolio of assets. The beta values indicate the sensitivity of the value of the particular asset to systematic risk.[46]

In deriving a proxy beta, it must be borne in mind that the level of risk faced by equity holders is affected by the level of gearing that is adopted by the firm. An increase in the level of gearing, *ceterus paribus*, increases the financial risk that is borne by equity holders, and so increases the equity beta. A common practice to permit comparison of estimated betas across firms with different capital structures is to convert the estimated equity betas into an asset beta (which is the estimate of the equity beta on the assumption that the firm was wholly equity financed). As asset betas measure only the underlying market risk of the asset, they can be compared across firms regardless of capital structure. Accordingly, practice amongst regulators has been to determine a proxy asset beta, and then to re-lever this into an equity beta that is consistent with the assumed capital structure of the entity.

The appropriateness of a proxy beta is dependent upon the businesses for which beta estimates are available having a similar level of systemic risk. Since there are few comparable infrastructure entities listed on the Australian Stock Exchange, regulatory practice in Australia has been to place weight upon publicly available beta estimates for firms that are operating in other countries. However, differences in the composition of equity markets between countries and differences in the regulatory regimes within which regulated businesses operate can affect the level of systemic risk that is borne by the proxy businesses. Therefore an element of judgement must be exercised as to the appropriateness of the proxy betas. The table below provides examples of recent asset betas calculated for international energy businesses.

[46] Peirson, G., Bird, R., Brown, R. and Howard, P., 1990. *Business Finance* 5th ed., New York, Sydney: McGraw-Hill, pp 96,97. Systematic risk is also referred to as non-diversifiable risk as no amount of diversification in an asset portfolio can eliminate it. The second component of the total risk of an asset is unsystematic or diversifiable risk which relates to variance in the value of the asset that arises from factors specific to that asset. In principle, this risk can be eliminated from an asset portfolio by adequate diversification of that portfolio.

Selected international asset betas

Source	Industry Group/Firm	Asset Beta Range
CS First Boston (1997)	8 US gas distribution companies	0.26 – 0.48 (0.36)
	6 US gas transmission companies	0.35 – 0.61 (0.50)
	3 UK electricity distributors	0.97 – 1.39 (1.14)
	Allgas	0.11
	AGL	0.56
	Average for gas distribution	**0.50**
	Average for gas transmission	**0.45**
Macquarie Risk Advisory Service (1998)	22 international electricity distribution companies	0.25 – 0.85 (0.45)
	17 international gas distribution companies	0.25 – 0.75 (0.40)
	Allgas	0.30
	AGL	0.40
	Average for distribution businesses	**0.35 – 0.50**
IPART (1998)	Telecommunications	0.41
	Infrastructure and Utilities	0.46
	Allgas	0.53
	AGL	0.46

There is some evidence that the asset betas for businesses operating under incentive-compatible regulation are likely to be higher than asset betas for businesses operating under more conventional rate-of-return regulation.[47] The ranges for asset betas that have been accepted by regulators in Australia in recent decisions, and the asset betas adopted recently by UK regulators for comparable industries, are indicated below together with the form of regulation applied.

[47] For example, Alexander, Mayer and Weeds (1996) *Regulatory Structure and Risk and Infrastructure Firms: An International Comparision*, World Bank Policy Research Working Paper No. 1698, which argues that asset betas for businesses operating under incentive-compatible regimes could be as much as 0.3 to 0.4 higher than equivalent companies operating under conventional rate-of-return regimes.

Asset betas adopted by Australian and UK regulators

Gas Regulatory Decisions	Asset Beta Range	Form of Regulation
ORG Final Decision on Victorian Gas Distribution (October 1998)	0.45 – 0.60 (adopted 0.55)	Price cap
ACCC Final Decision on Victorian Gas Transmission (October 1998)	0.45 – 0.60 (adopted 0.55)	Price cap
IPART Great Southern Network Final Decision (March 1999)	0.40 – 0.50	Price cap
IPART Albury Gas Company Final Decision (December 1999)	0.40 – 0.50	Price cap
ACCC AGL Central West Pipeline Draft Decision (September 1999)	0.60	Price cap
Electricity Regulatory Decisions	**Asset Beta Range**	**Form of Regulation**
ACCC TransGrid Draft Decision (May 1999)	40 – 0.50 (adopted 0.45)	Revenue cap
IPART NSW Electricity Distributors / Transmission Draft Decision (July 1999)	0.35 – 0.50	Unsettled
UK Regulatory Decisions	**Asset Beta Range**	**Form of Regulation**
Ofgas/MMC Review of Transco (the UK transmission company) (May 1997))	0.45 – 0.6 [48]	Price cap
Offer Draft Decision on UK Electricity Distributors August 1999)	0.70 [49]	Price cap

Having regard to the evidence provided from observed equity betas and the ranges for the asset betas that have been adopted by Australian regulators to date, the Regulator considers that a range for the asset beta of between 0.45 and 0.60 would constitute a reasonable range for the asset beta of an Australian gas distribution business.

Where the actual asset beta would lie within this range depends on whether the level of risk faced by AlintaGas is likely to be above or below that borne by the average Australian gas distribution business. The Regulator considers that AlintaGas is likely to bear a higher level of risk than other gas distribution businesses for the following reasons.

[48] Monopolies and Mergers Commission, *BG plc: A Report under the Gas Act 1986 on the Restriction of Prices for gas Transportation and Storage Services* (1997).

[49] Office of Electricity Regulation (UK), *Reviews of Public Electricity Suppliers 1998 to 2000: Distribution Price Control Review Draft Proposals*, August 1999. Offer used an equity beta of 1.0 with a gearing level of 50%. The high assumed asset beta comes from it using a debt margin of 1.4% with a mid-point equity premium of 3.5%, which implies a debt beta of 0.40 (using the method for estimating the debt beta discussed earlier). A more reasonable debt beta – say, 0.20 – would give a much lower estimated asset beta (in that case, of 0.6).

- AlintaGas's market penetration is far less than the Victorian gas distributors, and the annual average gas consumption for residential gas customers is far less than that of gas distributors in the eastern States.

- The average price of gas for domestic and industrial customers is higher than for gas distributors in the eastern States. This may provide more competitive opportunity for electricity suppliers in meeting the energy needs of these customers.

- On current price relativities, AlintaGas is far more reliant upon the revenue from industrial customers than the Victorian gas distributors. As these customers are more likely to respond to market-wide movements, this should increase the level of systematic risk.

Having regard to the evidence provided from observed equity betas and the ranges for the asset betas that have been adopted by Australian regulators to date, the Regulator considers that a range for the asset beta of between 0.45 and 0.60 be used to estimate the WACC for AlintaGas. In light of the possible increased risks borne by AlintaGas due to its lower market penetration and higher average costs (due to customer density and average gas usage) an asset beta towards the upper end of this range (0.55) has been used to estimate AlintaGas's WACC. This asset beta is slightly higher than, but not materially different to, the value adopted by AlintaGas. This asset beta corresponds to an equity beta of 1.05.

Market (Equity) Risk Premium

The equity or market risk premium measures the risk associated with holding the market portfolio of investments. It is the difference between the expected return on holding the market portfolio, and the risk free rate. The risk free rate is difficult to estimate, even on a historic basis, and is highly sensitive to the set of assumptions upon which it is derived. However, practitioners have generally used the actual average excess returns from holding shares compared to long dated (10 year) government bonds over the long term as a proxy for the expected market risk premium.

Historical evidence indicates a market risk premium of around 6 to 8 percent.[50] However, given the recent growth rate of the equity market, it appears that investors' perceptions of risks are changing and "forward-looking" estimates of the equity premium are falling. In the UK, for example, utility regulators are currently using a range of between about 3 and 4 percent for the equity premium, as are UK equity analysts. Within Australia, many equity analysts now use an equity premium that is at the lower end of, or below, the range based upon estimates of the long-term historical average equity premium.

The use of historical returns also appears somewhat at odds with the CAPM, which is essentially "forward-looking" with respect to the equity premium. However, the use of a long-term historical average equity premium (a "backward-looking" equity premium) remains attractive, given the inherent volatility in equity markets. For example, in the case of a sudden correction in the stock market, forward-looking estimates of the equity premium would be expected to rise significantly, and equity analysts (and investors) would most likely revise upwards their perceptions of risk in the equity market.

[50] IPART, The Rate of Return for Electricity Distribution Businesses: Discussion Paper, November 1998, p16.

In light of the emerging consensus that the forward-looking equity premium is lower than that implied by long-term historical averages, Australian regulators have been using an assumed equity premium that is at the lower end of, or below, the range implied by the long-term historical averages. The accepted values of market (equity) risk premiums have been in the range 5 to 6 percent, as indicated below.

Equity premiums adopted in recent regulatory decisions

Regulatory decision	Market (equity) risk premium
ORG Final Decision on Victorian Gas Distribution (October 1998)	6%
ACCC Final Decision on Victorian Gas Transmission (October 1998)	6%
IPART Great Southern Network Final Decision (March 1999)	5% – 6%
ACCC TransGrid Draft Decision (May 1999)	6%
ACCC Telstra's Originating and Terminating Access Undertaking (June 1999)	6%
IPART NSW Electricity Distributors / Transmission Draft Decision (July 1999)	5% – 6%
IPART Albury Gas Company Final Decision (December 1999)	5% – 6%
ACCC AGL Central West Pipeline Draft Decision (September 1999)	5.5%

Having regard to the range in market (equity) risk premiums adopted by Australian regulators to date, the Regulator considers that a market risk premium of no more than 6 percent should be used to estimate the WACC for AlintaGas.

Risk Free Rate and Inflation Forecast

AlintaGas assumed a nominal risk free rate of 5.65 percent and adopted an inflation rate forecast of 2.5 percent, implying a real risk free rate of 3.07 percent. The assumed nominal risk free rate was based upon the yield to maturity on 10 year Commonwealth Government bonds, averaged over the previous 12 months. The source of its inflation forecast was not stated in the Access Arrangement.

In recent years, Australian regulators have all adopted a very similar approach to deriving the proxy real risk-free rate, based on one or other of the following methods.

- Deriving the nominal risk free rate from a recent average (20, 30 or 40 days) of the yields on Commonwealth bond rates, the real risk free rate from a recent average of the yields on Commonwealth index-linked bonds over the same period, and calculating the inflation forecast as the difference between these yields.

- Using the yield on bonds with either 5 year or a 10 year yield to maturity.

Whilst the different approaches seldom have a material effect on the proxy real risk free rate, the Regulator has decided to use the yield to maturity on 10 year Commonwealth Government Treasury Bonds as a proxy for the nominal risk free rate and the yield to maturity on the 10 year Commonwealth Government Capital Indexed Treasury Bonds as the proxy for the real risk free rate. The observed yield for the relevant bonds has been taken as the average of the most recent 20 trading days.

The difference between the two rates (calculated using the Fisher equation[51]) provides an inflation forecast over the relevant period. The use of Commonwealth capital indexed bonds has the advantage that it permits a market-based expectation of inflation to be taken into account. It has also been used by other regulators to provide a measure of inflation.[52]

As at 5 March 2000, this gave a nominal risk free rate of 6.85 percent, a real risk free rate of 3.65 percent, and a forecast rate of inflation of 3.09 percent, which is just outside the Reserve Bank's target range for inflation of between 2 and 3 percent. These values have been used by the Regulator to revise the WACC for AlintaGas.

It is noted that the inflation rate of 3.09 percent assumed for the purposes of estimating the WACC is different from the rate of 2.5 percent that has been assumed by AlintaGas in forecasts of costs and which is used elsewhere in the financial analysis underlying the derivation of Reference Tariffs. The Regulator did not have sufficient information to adjust AlintaGas's forecasts of nominal costs and revenues to reflect the slightly higher inflation rate. However, the inconsistency in inflation rate assumptions is not expected to materially affect the derivation of Reference Tariffs.

Assumed Capital Structure

AlintaGas assumed a financing structure comprising 55 percent debt and 45 percent equity for the determination of the WACC.

This gearing level is contrary to recent reviews of gearing levels in recent decisions on regulated infrastructure in the eastern States. These reviews proposed gearing levels of 60 percent as appropriate.[53] Adoption of a similar gearing level would be consistent with the requirements of section 8.31 of the Code that requires that the weighted average return of funds should be calculated by reference to a financing structure that reflects standard industry structures. As the standard target gearing for gas companies is considered to be 60 percent by the ACCC, ORG and IPART, the Regulator considers such a level of gearing to be appropriate for the determination of the WACC for AlintaGas.

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[51] Brealey, R.A. and Myers, S.C., 1996. *Principles of Corporate Finance*, fifth edition, New York McGraw–Hill, pp 642,643.

[52] Independent Pricing and Regulatory Commission, ACTEW's Electricity, Water and Sewerage Charges for 1999/2000 to 2003/2004, Draft Price Decision, February 1999; and IPART, Aspects of the NSW Rail Access Regime, Draft Report, February 1999.

[53] ACCC, 1998. Final Decision on the Access Arrangements by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Principal Transmission System, Transmission Pipelines Australia Pty Ltd and Transmission Pipelines (Assets) Pty Ltd for the Western Transmission System, and by Victorian Energy Networks Corporation for the Principal Transmission System; IPART, 1999, Draft Decision Albury Gas Company Ltd.

Cost of Debt Margin

AlintaGas has calculated its cost of debt margin by inserting an assumed debt beta of 0.235 into the CAPM equation. The resultant cost of debt margin was calculated to be 1.53 percent. This approach to estimating the cost of debt is unconventional, particularly because debt betas cannot be observed in the market but are normally estimated by observing the market cost of debt directly, and then using the CAPM equation to back-solve for the debt beta.

The debt margins that have been adopted by regulators in recent regulatory reviews are as follows.

Recent regulatory decisions on debt margins

Regulatory decision	Range for debt margin	Point estimate
ORG Final Decision on Victorian Gas Distribution (October 1998)	1.0% – 1.2%	1.2%
ACCC Final Decision on Victorian Gas Transmission (October 1998)	1.0% – 1.2%	1.2%
IPART Great Southern Network Final Decision (March 1999)	–	1.2%
IPART Albury Gas Company Final Decision (December 1999)	1.0% – 1.2%	1.2%
IPART NSW Electricity Distributors / Transmission Draft Decision (July 1999)	–	1.0%
ACCC TransGrid Draft Decision (May 1999)	–	1.0%
ACCC AGL Central West Pipeline Draft Decision (September 1999)	–	1.0%

On the basis of financial advice, the Regulator considers that it is reasonable to assume a debt margin of 1.3 percent in order to derive a debt beta for AlintaGas. When combined with the assumed market risk premium of 6.0 percent, the debt margin produces a debt beta of 0.22.

Taxation

There are three main taxation issues relevant to the determination of the WACC. These are the effective rate of company taxation, imputation of franking credits, and conversion of the post-tax WACC to a pre-tax WACC.

Rate of Taxation

The target revenue that is used by the Regulator to set regulatory controls is a pre-tax revenue stream.[54] This target revenue includes the "cost" of a rate of return on assets that includes taxation liabilities. The Regulator must therefore make an assumption about the likely cost of taxation to that entity. It follows that the accuracy of the assumption that is made about the cost of tax will affect whether the target revenue is expected to provide the target post-tax return. If the cost of taxation is overestimated, then the target revenue would be expected to provide the regulated entity with a return that is higher than market requirements. Conversely, if the cost of taxation is underestimated, then the target revenue would be expected to provide the regulated entity with a return that is below market requirements.

A critical question facing regulators in Australia in assessing the most appropriate treatment of taxation has been whether the assumed cost of taxation should reflect the effective taxation rate or the statutory taxation rate. The effective taxation rate (actual taxation liability as a proportion of regulatory profit) may differ from the statutory taxation rate for several reasons including the divergence between economic depreciation and taxation depreciation, and the ability of the regulated entity to deduct the nominal cost of debt for taxation purposes. In general, the effective rate of taxation is likely to be below the statutory rate.

There has been some recent conjecture, most notably by the ACCC, that an effective tax rate, which adjusts the statutory tax rate to reflect the excess of tax depreciation of assets over economic depreciation should be used in the CAPM framework. However, this approach attracted widespread criticism on the basis that it would be difficult to integrate the effective tax rate into a single-period CAPM, particularly where the lives of the assets ranged from 30 to 50 years. The ACCC acknowledged these difficulties and reverted to using the statutory tax rate.

Given the problems encountered by regulators in estimating an effective rate of taxation from a long-term estimate of the average cost of tax, there has been recent conjecture that an effective rate of tax is best estimated using a short-term estimate of the cost of tax, through either a *flow-through* or *normalisation* approach.[55] The ACCC, in its statement of regulatory principles for the regulation of electricity transmission revenues, has proposed setting required revenues based on a forecast of taxation liabilities (less assessed value of franking credits) over the relevant regulatory period, which is consistent with either a flow-through or

[54] That is, regardless of what a regulator might decide or intend, the revenue that the entity earns from its regulated business will be assessable for company taxation according to the relevant statutes.

[55] Under the flow-through approach, an explicit estimate is made of the cost of tax for the regulated entity for each year of the Access Arrangement Period and added to the pre-tax revenue requirement. Under the normalisation approach, a notional cost of taxation is included within the revenue requirement, where this cost of taxation is calculated on the assumption that the taxation system only permits regulatory depreciation rather than taxation depreciation to be deducted for taxation purposes. Both the ORG and the ACCC have discussed in detail the problems that are associated with using simple transformations or empirical estimates of the long-term average cost of taxation to set regulated revenues, and have stated that approaches like flow-through or normalisation offer advantages. These matters were discussed in ACCC, *Final Decision: Access Arrangement by Transmission Pipelines Australia Pty Ltd*, October 1998, ORG, *Final Decision: Access Arrangements for Westar, Multinet and Stratus*, October 1998, and more recently in ORG, *2001 Electricity Distribution Price Review: Cost of Capital Financing (Consultation Paper No 4)*, May 1999.

normalisation approach.[56] In addition, whilst the ACCC estimated the taxation liability for the AGL Central West Pipeline in its draft decision essentially on the basis of a long-term average cost of tax, it is understood that the ACCC is considering implementing normalisation for that pipeline in its final decision.

In order to compensate for the cost of tax, AlintaGas has grossed-up its proposed post-tax nominal WACC by the current statutory tax rate (36 percent) in order to derive a pre-tax nominal WACC, and has then deducted inflation in order to derive the pre-tax real WACC.

The Regulator has given consideration to adopting an effective rate of tax, based on a short-term estimate of the cost of tax using either a pass-through or normalisation approach, in its assessment of the likely cost of tax to AlintaGas. However, despite the theoretical advantages associated with using these techniques, the Regulator is mindful of the complexities involved in their practical application, which will require additional and specific research before implementation. The Regulator therefore has decided that in this Draft Decision, the cost of tax will reflect the statutory tax rate and not the effective tax rate based on a pass-through or normalisation approach.

In the absence of any definitive studies demonstrating the accuracy of using an effective rate of tax in the CAPM, based on a pass-through or normalisation approach, the Regulator considers that the current statutory corporate tax rate of 36 percent is appropriate for the purposes of this Draft Decision. The Regulator notes that corporate taxation rates are subject to change as of 1July 2000, and may consider the new taxation rates prior to issue of a Final Decision on the Access Arrangement.

Valuation of Franking Credits

Franking credits are an allowance under the Australian taxation system that permit dividends paid to shareholders to be exempt from personal income tax in recognition of company tax having already been paid on profits from which the dividends are paid. The value of franking credits is incorporated into the WACC calculation to reflect the benefits that shareholders gain from franking, and the consequent lower requirement of shareholders for the rate of return on investment.

The approach for reflecting the value of imputation credits that has emerged as standard practice is to use a market (equity) risk premium that assumes that Australia has a classical tax system, then to adjust the WACC or cash-flows directly to reflect the non-cash benefits associated with franking credits. The mechanism used to achieve this – the gamma term – can then be interpreted as the value of each franking credit that is created by the firm, as a proportion of its face value.

It is common for downward adjustments to be made to the value of franking credits once distributed to arrive at a gamma value, to account for the fact that not all franking credits are paid out in the year in which they are created. Hathaway and Officer suggest that only 80 percent of franking credits are distributed in the year in which they are created.[57] The

[56] ACCC, *Draft Statement of Regulatory Principles of Transmission Revenues*, May 1999.

[57] Hathaway and Officer (1992), *The Value of Imputation Credits*, unpublished manuscript, Finance Research Group, Graduate School of Management, University of Melbourne.

ORG and the ACCC have used a gamma value that was 70 to 80 percent of franking credits created, which is consistent (albeit erring on the conservative side) with the findings of Hathaway and Officer. The gamma values that have been accepted by regulators in recent regulatory matters are provided in the table below.

Gamma Assumptions Adopted by Australian Regulators

Regulatory Decision	Gamma Assumption
ORG Final Decision on Victorian Gas Distribution (October 1998)	0.50
ACCC Final Decision on Victorian Gas Transmission (October 1998)	0.50
IPART Great Southern Network Final Decision (March 1999)	0.30 – 0.50
IPART Albury Gas Company Final Decision (December 1999)	0.30 – 0.50
IPART NSW Electricity Distributors / Transmission Draft Decision (July 1999)	0.30 – 0.50
ACCC TransGrid Draft Decision (May 1999)	0.50
ACCC Telstra's Originating and Terminating Access Undertaking (June 1999)	0.50
ACCC AGL Central West Pipeline Draft Decision (September 1999)	0.50

AlintaGas has assumed a *gamma* value of 0.3 (between 0.2 and 0.4) for the determination of the WACC.

On the basis of financial advice, the Regulator has decided to use a gamma value of 0.5 in the determination of the WACC, which is consistent with all of the decisions of the ACCC and ORG.

Conversion of Post-Tax WACC to Pre-Tax WACC

The conversion of the post-tax WACC to the pre-tax WACC is undertaken by adjusting for the corporate tax rate, including the effects of imputation of franking credits.

In most decisions to date, the Australian regulators have based their assumptions about the cost of tax on two simple transformations of a post-tax WACC to a pre-tax WACC:

i. market practice transformation, involving division of the post-tax nominal WACC by one minus the statutory taxation rate, and then deducting inflation (using the Fisher transformation[58]) to derive the pre-tax real WACC; and

ii. reverse transformation, involving first deducting inflation from the post-tax nominal WACC, and then grossing up the post tax real WACC by one minus the statutory taxation rate.

The recent decisions of Australian regulators in gas and electricity matters have used these methodologies in the following ways to correct for the cost of taxation.

Approaches of Australian regulators to derivation of pre-tax WACCs

Regulatory decision	Approach	Market practice pre-tax WACC	Adopted pre-tax WACC
ORG Final Decision on Victorian Gas Distribution (October 1998)	Used the market practice and reverse transformations to generate a range for the WACC, and chose a value towards the upper end of this range.	8.0%	7.75%
ACCC Final Decision on Victorian Gas Transmission (October 1998)	Used the market practice and reverse transformations to generate a range for the WACC, and chose a value towards the upper end of this range.	8.0%	7.75%
IPART Great Southern Network Final Decision (March 1999)	Used the market practice and reverse transformations, together with ranges for the other inputs, to generate a range for the WACC, and chose a value within this range.	6.8% – 8.4%	7.75%
IPART NSW Electricity Distributors / Transmission Draft Decision (July 1999)	Used the market practice and reverse transformations, together with ranges for the other inputs, to generate a range for the WACC, and chose a value within this range.	6.6% – 8.6%	7.5% (Urban) 7.75% (Rural)
IPART Albury Gas Company Final Decision (December 1999)	Used the market practice and reverse transformations, together with ranges for the other inputs, to generate a range for the WACC, and chose a value within this range.	5.1% – 8.6%	7.75%

[58] $Real\ WACC = \frac{1 + nominal\ WACC}{1 + i} - 1$, where i is the inflation rate.

Approaches of Australian regulators to derivation of pre-tax WACCs

Regulatory decision	Approach	Market practice pre-tax WACC	Adopted pre-tax WACC
ACCC AGL Central West Pipeline Draft Decision (September 1999)	Calculated a pre-tax WACC based on a long term effective tax rate. The pre-tax WACC was calculated empirically (i.e. based on forecast cash flows over the long term). It is understood that the ACCC is contemplating including a normalisation mechanism for the Central West Pipeline in its final decision.	8.4%	7.5%
WA Regulator Parmelia Pipeline Draft Decision (October 1999)	Used the market practice transformation and single values of other inputs to generate a point estimate for the WACC.	8.3%	8.3%

None of the regulators have used either the market practice transformation, or the reverse transformation, in isolation to determine the pre-tax WACC. Rather, these have generally been held as a range that accommodates possible assumptions about the taxation system in so far as it affects the estimate of the WACC.

WACC Determination

A comparison of values of input variables to the WACC calculation used by AlintaGas with values considered reasonable by the Regulator is provided as follows.

Estimation of the rate of return

Parameter	Parameter symbol	Value used by AlintaGas	Value proposed by the Regulator
Risk Free Rate (Nominal)	R_f	5.65%	6.85%
Risk Free Rate (Real)	R_f	3.07%	3.65%
Market Risk Premium	–	6.50%	6.0%
Equity Beta	b_e	0.85	1.05
Debt Beta	b_d	0.235	0.22
Cost of Debt Margin		1.53%	1.30%
Corporate Tax Rate	T	36%	36%
Franking credit value	g	30%	50%
Debt to total assets ratio	D/V	55%	60%
Equity to total assets ratio	E/V	45%	40%
Expected inflation	p_e	2.5%	3.09%

The revised WACC estimates for AlintaGas are as follows.

Revised WACC

Estimated WACCs	Nominal	Real
Post-tax (Vanilla)	10.2%	6.9%
Post-Tax (Officer)	7.4%	4.2%
Post-tax (Monkhouse)	9.3%	6.0%
Pre-tax (market practice transformation)	11.3%	8.0%
Pre-tax (reverse transformation)	9.6%	6.3%

The WACC values for the AlintaGas distribution business generated by the market practice and reverse transformations are 8.0 and 6.3 percent, respectively. The Regulator considers that a real pre-tax WACC somewhere towards the upper end of the range is reasonable. On the basis of financial advice, the Regulator considers a real pre-tax WACC of 7.9 percent and a nominal pre-tax WACC of 11.2 percent to be appropriate for the AlintaGas distribution business.

Implicit in these WACC values are the following rates of return on equity.

Returns on equity implicit in WACC values

Nominal post-tax return on equity	13.2 percent
Real post-tax return on equity	9.8 percent
Nominal pre tax return on equity	15.9 percent
Real pre-tax return on equity	12.4 percent

The following amendment is required before the Access Arrangement will be approved.

> Amendment 31
>
> The Access Arrangement and Access Arrangement Information should be amended to reflect a pre-tax real rate of return of 7.9 percent, and a pre-tax nominal rate of return of 11.2 percent.

5.7 DEPRECIATION SCHEDULE

5.7.1 Access Code Requirements

Sections 8.32 to 8.34 of the Code specify rules for depreciation of assets that form part of the Capital Base, for the purposes of determining a Reference Tariff.

Section 8.32 defines a Depreciation Schedule as the set of depreciation schedules (one of which may correspond to each asset or group of assets that form part of the covered pipeline) that is the basis upon which the assets that form part of the Capital Base are to be depreciated for the purposes of determining a Reference Tariff (the Depreciation Schedule).

Section 8.33 requires that the Depreciation Schedule be designed:

(a) so as to result in the Reference Tariff changing over time in a manner that is consistent with the efficient growth of the market for the Services provided by the pipeline (and which may involve a substantial portion of the depreciation taking place in future periods, particularly where the calculation of the Reference Tariffs has assumed significant market growth and the pipeline has been sized accordingly);

(b) so that each asset or group of assets that form part of the covered pipeline is depreciated over the economic life of that asset or group of assets;

(c) so that, to the maximum extent that is reasonable, the depreciation schedule for each asset or group of assets that form part of the covered pipeline is adjusted over the life of that asset or group of assets to reflect changes in the expected economic life of that asset or group of assets; and

(d) subject to provisions for capital redundancy in section 8.27 of the Code, so that an asset is depreciated only once (that is, so that the sum of the Depreciation that is attributable to any asset or group of assets over the life of those assets is equivalent to the value of that asset or group of assets at the time at which the value of that asset or group of assets was first included in the Capital Base).

Section 8.34 provides for the application of depreciation principles in the determination of Total Revenue using IRR or NPV methodologies. If the IRR or NPV methodology is used, then the notional depreciation over the Access Arrangement Period for each asset or group of assets that form part of the covered pipeline is:

(a) for an asset that was in existence at the commencement of the Access Arrangement Period, the difference between the value of that asset in the Capital Base at the commencement of the Access Arrangement Period and the value of that asset that is reflected in the Residual Value; and

(b) for a New Facility installed during the Access Arrangement Period, the difference between the actual cost or forecast cost of the Facility (whichever is relevant) and the value of that asset that is reflected in the Residual Value,

and, to comply with section 8.33:

(c) the Residual Value of the covered pipeline should reflect notional depreciation that meets the principles of section 8.33; and

(d) the Reference Tariff should change over the Access Arrangement Period in a manner that is consistent with the efficient growth of the market for the Services provided by the pipeline (and which may involve a substantial portion of the depreciation taking place towards the end of the Access Arrangement Period, particularly where the calculation of the Reference Tariffs has assumed significant market growth and the pipeline has been sized accordingly).

5.7.2 Access Arrangement Proposal

The Depreciation Schedule proposed by AlintaGas is described in section 3 of the Access Arrangement Information.

AlintaGas determined a Depreciation Schedule for each group of assets that form the AlintaGas network. The set of Depreciation Schedules establishes the depreciation to be used for the purpose of determining Reference Tariffs.

Depreciation for each group of assets that form the AlintaGas network was calculated using the Current Cost Accounting (CCA) method. In applying this method, regulatory asset values were adjusted each year to take into account new facilities investment, and the depreciation of existing and new facilities, during the year. Depreciation was calculated on a straight line basis on the adjusted regulatory asset values. Assets in each group were depreciated over the assumed economic life. The resulting depreciation was then further adjusted for the change in nominal asset values during the year caused by inflation.

The economic lives and average remaining lives of the assets forming the AlintaGas network, as used in determining the Depreciation Schedule, are set out in the table below.

Economic lives of assets (at 30 June 1998)

Category of asset	Economic Life (years)	Average remaining life (years)
Mains:		
High pressure	120	97
Medium pressure	60	50
Medium low pressure	60	41
Low pressure	60	41
Secondary gate stations	40	26
Regulators	40	40
Meters:		
Residential	25	10
Commercial and industrial	25	14
Telemetry and monitoring systems	10	5
Equipment and vehicles	10	5
Buildings	40	25

The Depreciation Schedule by type of asset, as used by AlintaGas in the determination of Reference Tariffs, is presented in the table below.

AlintaGas proposed Depreciation Schedule (nominal $million; year ending 31 December)

Asset Group	1999	2000	2001	2002	2003	2004	Total
Mains:							
High pressure	1.4	1.5	1.5	1.6	1.7	1.7	**9.4**
Medium pressure	3.5	3.7	3.8	4.0	4.2	4.4	**23.6**
Medium low pressure	2.4	2.5	2.5	2.6	2.7	2.7	**15.4**
Low pressure	0.9	0.9	1.0	1.0	1.1	1.2	**6.1**
Secondary gate stations	0.1	0.1	0.1	0.1	0.1	0.1	**0.6**
Regulators	0.3	0.4	0.4	0.4	0.4	0.4	**2.3**
Meters and service pipes	4.6	5.0	5.6	6.1	6.5	7.0	**34.8**
Equipment and vehicles	2.7	3.2	3.8	4.1	4.4	4.8	**23.0**
Buildings	0.1	0.1	0.1	0.1	0.1	0.1	**0.6**
Total	**16.0**	**17.4**	**18.8**	**20.0**	**21.2**	**22.4**	**115.8**

5.7.3 Submissions from Interested Parties

- Western Power

  Western Power urges OffGAR to scrutinise the CCA depreciation calculations proposed by AlintaGas to ensure that they are consistent with the generally accepted interpretation and application of the CCA depreciation methodology.

The Regulator assessed AlintaGas's derivation of the Depreciation Schedule against accounting standards for CCA accounting. This assessment is described below under "Additional Considerations of the Regulator".

5.7.4 Additional Considerations of the Regulator

In assessing AlintaGas's proposed Depreciation Schedule, the Regulator considered the assumptions as to asset lives and AlintaGas's application of the CCA methodology in calculating depreciation allowances.

On the basis of advice from Connell Wagner, the Regulator considers AlintaGas's assumptions as to asset lives to be reasonable.

The Regulator assessed AlintaGas's derivation of the Depreciation Schedule against accounting standards described in the Statement of Accounting Practice No. 1: Current Cost Accounting.[59] An inconsistency was observed between AlintaGas's methodology and the accounting standard in regard to the relative timing of depreciation and asset inflation for Capital Expenditure.

For the purpose of CCA accounts, depreciation of Capital Expenditure for an accounting period should be expressed in average-for-period values. This makes provision for an even timing of Capital Expenditure over the period, rather than assuming that all Capital expenditure occurs on the first day of the period. However, for the purposes of carrying forward the CCA value of assets to a subsequent accounting period and reporting the written down value of assets, it is necessary to express the value of assets and the accumulated depreciation in end of period values.

AlintaGas calculated the annual depreciation costs for Capital Expenditure by the following method:

$$CCA(DNI_t) = \left(DR \times \frac{NI_t}{2} \right) \times (1 + p_e) .$$

where: $CCA(DNI_t)$ is the CCA depreciation on new investment during year t;

DR is the depreciation rate corresponding to each group of assets;

[59] Australian Society of Accountants and Institute of Chartered Accountants in Australia, 1989, Statement of Accounting Practice "Current Cost Accounting" (SAP 1). Australian Society of Accountants and Institute of Chartered Accountants in Australia, 1989, Statement of Accounting Practice SAP1 Guidance Notes. Australian Accounting Research Foundation, 1984. Working Guide for Statement of Accounting Practice SAP 1 Current Cost Accounting.

NI_t is the new investment during year t; and

p_e is the expected rate of inflation (assumed equal to 2.5 percent).

By treating only 50 percent of new investment during any year as depreciable in that year, AlintaGas has made provision for Capital Expenditure occurring evenly throughout the year. The un-inflated depreciation cost thus corresponds to an average-for-year value. However, AlintaGas has applied a full-year inflation escalation to the depreciation cost. While this is appropriate for the purposes of carrying depreciation costs forward in CCA balance sheet, it is inappropriate for the purposes of specifying average-for-period depreciation values. For the latter, depreciation costs should only be escalated by an inflation rate corresponding to the average timing of Capital Expenditure, in this case six months. The corrected methodology for calculating depreciation on Capital Expenditure is therefore:

$$CCA(DNI_t) = \left(DR \times \frac{NI_t}{2} \right) \times (1 + \frac{p_e}{2}) .$$

The Regulator corrected the Depreciation Schedule based on AlintaGas's proposed asset values and Capital Expenditure. The correction resulted in a total difference in depreciation costs of approximately $200,000 over the Access Arrangement Period. This difference is not regarded as material.

The Regulator revised the Depreciation Schedule to correct for the timing of inflation escalation of Capital Expenditure, and to accommodate revisions made to the Initial Capital Base and Capital Expenditure as described in sections 5.3 and 5.5 of this Draft Decision. The revised Depreciation Schedule is as follows.

Revised Depreciation Schedule (nominal $million; year ending 31 December)

Asset Group	2000	2001	2002	2003	2004	Total
Mains:						
High pressure	1.4	1.5	1.5	1.6	1.6	7.6
Medium pressure	3.5	3.6	3.8	3.9	4.0	18.8
Medium low pressure	2.3	2.4	2.5	2.5	2.6	12.3
Low pressure	0.9	0.9	1.0	1.1	1.1	5.0
Secondary gate stations	0.1	0.1	0.1	0.1	0.1	0.5
Regulators	0.3	0.4	0.4	0.4	0.4	1.9
Meters and service pipes	4.8	5.3	5.7	6.2	6.7	28.8
Equipment and vehicles	3.1	3.7	4.0	4.3	4.6	19.6
Buildings	0.1	0.1	0.1	0.1	0.1	0.4
Total	16.5	17.9	19.0	20.1	21.3	94.8
AlintaGas proposed total depreciation	**17.4**	**18.8**	**20.0**	**21.2**	**22.4**	**99.8**

The following amendment is required before the Access Arrangement will be approved.

Amendment 32 The Access Arrangement and Access Arrangement Information should be amended to reflect depreciation costs over the Access Arrangement Period of $94.8 million, as described in this Draft Decision.

5.8 TOTAL REVENUE

5.8.1 Access Code Requirements

Sections 8.4 and 8.5 of the Code require that the revenue to be generated from the sales (or forecast sales) of all Services over the Access Arrangement Period (the Total Revenue) be determined, or be able to be expressed in terms of, one of three methodologies.

- Cost of Service: the Total Revenue is equal to the cost of providing all Services (some of which may be the forecast of such costs), and with this cost to be calculated on the basis of:

  (a) a return (Rate of Return) on the value of the capital assets that form the covered pipeline (Capital Base);

  (b) depreciation of the Capital Base (Depreciation); and

  (c) the operating, maintenance and other non-capital costs incurred in providing all Services provided by the covered pipeline (Non-Capital Costs).

- Internal Rate of Return (IRR): the Total Revenue will provide a forecast IRR for the covered pipeline that is consistent with the principles in sections 8.30 and 8.31 of the Code. The IRR should be calculated on the basis of a forecast of all costs to be incurred in providing such Services (including capital costs) during the Access Arrangement Period. The initial value of the covered pipeline in the IRR calculation is to be given by the Capital Base at the commencement of the Access Arrangement Period and the assumed residual value of the covered pipeline at the end of the Access Arrangement Period (Residual Value) should be calculated consistently with the principles in section 8 of the Code.

- Net Present Value (NPV): the Total Revenue will provide a forecast NPV for the covered pipeline equal to zero. The NPV should be calculated on the basis of a forecast of all costs to be incurred in providing such Services (including capital costs) during the Access Arrangement Period, and using a discount rate that would provide the Service Provider with a return consistent with the principles in sections 8.30 and 8.31 of the Code.

  The initial value of the covered pipeline in the NPV calculation is to be given by the Capital Base at the commencement of the Access Arrangement Period and the assumed Residual Value at the end of the Access Arrangement Period should be calculated consistently with the principles in section 8 of the Code.

The methodology used to calculate the Cost of Service, an IRR or NPV should be in accordance with generally accepted industry practice.

Section 8.6 of the Code recognises that, in view of the manner in which the Rate of Return, Capital Base, Depreciation Schedule and Non-Capital Costs may be determined (in each case involving various discretions), it is possible that a range of values may be attributed to the Total Revenue determined using the above methodologies. In order to determine an appropriate value within this range the Regulator may have regard to any financial and operational performance indicators it considers relevant in order to determine the level of costs within the range of feasible outcomes under section 8.4 of the Code that is most consistent with the objectives contained in section 8.1 of the Code. Section 8.7 of the Code requires that, if the Relevant Regulator has considered financial and operational performance indicators for the purposes of section 8.6 of the Code, it must identify the indicators and provide an explanation of how they have been taken into account.

5.8.2 Access Arrangement Proposal

AlintaGas used a cost of service methodology to determine a Total Revenue requirement for the distribution systems. Total Revenue for each year of the Access Arrangement Period was calculated as the sum of:

- a return on the Capital Base;
- depreciation of the Capital Base;
- a return on working capital; and
- Non-Capital Costs.

The return on the capital base proposed by AlintaGas and derived using the CCA methodology is as follows.

Current cost accounting return on capital (nominal $million; year ending 31 December)

	1999	2000	2001	2002	2003	2004
CCA value of initial assets	530.5	543.8	557.4	571.3	585.6	600.2
CCA depreciation accumulated to start of year		16.0	32.8	50.5	69.0	88.4
CCA cost base	**530.5**	**527.8**	**524.6**	**520.8**	**516.6**	**511.8**
Additions to CCA value of assets	12.6	26.6	38.3	49.2	61.2	72.2
CCA depreciation accumulated to start of year		0.4	1.5	3.0	4.9	7.4
Additions to cost base	**12.6**	**26.2**	**36.8**	**46.2**	**56.3**	**64.8**
CCA return on:						
CCA cost base	42.4	42.2	42.0	41.7	41.3	40.9
Additions to cost base	1.0	3.1	5.0	6.6	8.2	9.6
Return on capital base	**43.4**	**45.3**	**47.0**	**48.3**	**49.5**	**50.7**

AlintaGas has indicated that the resulting stream of capital-related costs from the CCA calculation has the important property that the sum of the present value of the CCA depreciation, CCA return and CCA residual value at the end of the Access Arrangement Period (calculated using the pre-tax nominal WACC) is equal to the regulatory value of the assets at the beginning of the Access Arrangement period plus the present value (at the pre-tax nominal WACC) of the new facilities investment during the Access Arrangement period.

An allowance for a return on the working capital employed in providing Reference Services was included in the forecast total cost from which the Reference Tariffs have been determined. This allowance was determined by applying the pre-tax nominal WACC to an estimated working capital requirement of $13.0 million in the first year of the Access Arrangement, and to values of working capital in subsequent years escalated annually at a rate of one plus the inflation rate. In the final year, the return was calculated on half of the value of the working capital, representing the average value of working capital for the year.

Return on working capital (nominal $million; year ending 31 December)

	2000	2001	2002	2003	2004
Value of working capital	13.0	13.3	13.7	14.0	14.4
Return on working capital:	1.4	1.4	1.5	1.5	0.8

Proposed Non-Capital Costs and depreciation were described in sections 5.5 and 5.7 of this Draft Decision.

The proposed Total Revenue is indicated in section 2.4 of the Access Arrangement Information to be as follows.

AlintaGas proposed Total Revenue (nominal $million; year ending 31 December)

	2000	2001	2002	2003	2004
Return on Capital	45.3	47.0	48.3	49.5	50.7
Depreciation	17.4	18.8	20.0	21.2	22.4
Return on Working Capital	1.4	1.4	1.5	1.5	0.8
Non-Capital Costs	37.0	36.1	36.6	37.1	38.3
Total Revenue	101.1	103.4	106.4	109.4	112.2

5.8.3 Submissions from Interested Parties

Relationship Between Target Revenue, the Capital Base and the Rate of Return

- Australian Energy Advisors

  The tariff setting process would seem to have been isolated from the WACC calculation. Presumably, if the WACC figure is reduced, as we have suggested, and therefore the revenue accruing from capital charges is reduced, then AlintaGas would wish to recalculate the Deprival Values to retain the same target revenue. The significance of any assessment of required return on assets has been lost as soon as revenue targets derived by another means are accepted.

In valuing the Initial Capital Base, AlintaGas determined an Initial Capital base that would return the same distribution revenue under the Access Arrangement as is currently projected for the Period 2000 to 2003. The Initial Capital Base was therefore the "unknown" variable in determining a Total Revenue.

The Regulator's assessment of this approach to determining the Initial Capital Base was described in section 5.3 of this Draft Decision. The Regulator accepted the approach on the basis of considerations that included consideration of the resultant capital costs being relatively low in comparison with other distribution systems. The Regulator did, however, re-determine the value of the Initial Capital Base in the light of amendments to the various forecasts and assumptions underlying the Total Revenue. This has resulted in the Regulator proposing a lower Initial Capital Base than determined by AlintaGas.

5.8.4 Additional Considerations of the Regulator

On the basis of analysis of the information provided by AlintaGas, the Regulator considers the Total Revenue proposed by AlintaGas needs to be revised to reflect:

- revisions to Capital Expenditure as described in section 5.4 of this Draft Decision;
- revisions to Non-Capital Costs as described in section 5.5 of this Draft Decision;
- correction of a systematic bias in the CCA calculation of capital costs; and
- amendments to the working capital requirement and the methodology used to calculate a return on working capital.

The systematic bias in the CCA calculation of capital costs and the overstatement of working capital requirements are discussed below.

Capital Costs

AlintaGas has described its implementation of the CCA methodology for determining Total Revenue in sections 3.3 and 3.4 of the Access Arrangement Information, and has purported to demonstrate how this methodology ensures that the present value of capital costs incurred over the period is identical to the present value of revenue attributable to capital (return on assets and depreciation). However, these present values only equate under assumptions that:

- half of each year's capital costs (depreciation and return on capital) are incurred on the first day of each year, and the remainder is undertaken on the last day of each year; and

- all of the revenue for each year is received on the last day of each year.

Given that revenue is received, and capital costs are incurred, constantly over the year, the Regulator does not see any justification for having different assumptions about the timing of costs and revenue. The assumption that capital costs are incurred (on average) about six months before revenue is received, but whereas these occur at similar rates over each year, would produce an upwards bias in the revenue requirement.

The Regulator has recalculated the Total Revenue using AlintaGas's proposed cost parameters but using a more standard methodology. This methodology involves providing a return on the average asset value for the year, and (for the purposes of inflation indexation) treating all costs and revenue as being incurred and received in the middle of each year. This is approximately consistent with an assumption that all costs and revenue are incurred and received in the middle of each year.[60] Correction of average yearly asset values was undertaken by converting the opening asset value, depreciation costs and capital expenditure costs to real values (assuming a 2.5 percent annual inflation rate) and modelling a regulatory balance sheet for the Access Arrangement Period, as shown below. The return on capital was calculated in real terms and subsequently converted to nominal terms. Total Revenue was recalculated using the corrected return on capital and the AlintaGas forecasts of depreciation, Capital Expenditure and Non-Capital Costs. The present value of Total Revenue determined after correction of returns to capital is $5.6 million less than that calculated by AlintaGas.

AlintaGas proposed return on capital corrected for average yearly asset values

	1999	**2000**	**2001**	**2002**	**2003**	**2004**
Opening asset value (real $million)	530.5	539.2	548.4	550.9	550.4	550.1
Capital expenditure (real $million)	24.8	26.5	20.7	18.3	19.2	16.6
Depreciation (real $million)	(16.2)	(17.2)	(18.2)	(18.8)	(19.4)	(20.1)
Closing asset value (real $million)	539.2	548.4	550.9	550.4	550.1	546.7
Average asset value (real $million)	534.8	543.8	549.7	550.6	550.3	548.4
Return on capital (real $million)		43.5	44.0	44.1	44.1	43.9
Return on capital (nominal $million)		44.0	45.6	46.9	48.0	49.0

[60] This methodology retains a slight bias in favour of the Service Provider against the case that all costs and revenue are received in the middle of each year.

AlintaGas proposed Total Revenue corrected for a return on capital for the average yearly asset values (nominal $million)

	2000	2001	2002	2003	2004
Return on Capital	44.0	45.6	46.9	48.0	49.0
Depreciation	17.4	18.8	20.0	21.2	22.4
Return on Working Capital	1.4	1.4	1.5	1.5	0.8
Non-Capital Costs	37.0	36.1	36.6	37.1	38.3
Total Revenue	**99.8**	**101.9**	**105.0**	**107.8**	**110.5**

Working Capital

AlintaGas has proposed a working capital requirement of $13 million for 2000, escalating annually over the Access Arrangement Period by the assumed rate of inflation of 2.5 percent.

The Code does not address either the determination of a value of working capital or the treatment of working capital as a component of capital costs.

In assessing AlintaGas's proposed treatment of working capital and a rate of return on working capital, the Regulator adopted a stance similar to that of IPART:[61]

- working capital should form part of the regulatory Capital Base;
- net working capital should be defined to reflect items essential only for the conduct of the business; and
- a nominal return should be allowed on net working capital, as opposed to a real rate of return on the regulatory value of capital assets.

AlintaGas has indicated to the Regulator that the proposed working capital requirement of $13.0 million is derived from considering a requirement equal to 1½ months of revenue. This derivation of the working capital requirement is inconsistent with the treatment of working capital proposed by IPART which is cost-based rather than revenue-based.

Working capital requirements for regulatory purposes should include only a cash requirement to meet Non-Capital Costs. The preferred method of calculating working capital for regulatory purposes is to determine the number of days, on average, that expenses are due prior to revenue being received – the "net lag". The working capital requirement is then calculated as:

$$Working\ capital\ requirement = \frac{net\ lag}{365} \times annual\ Non\ Capital\ Costs.$$

[61] IPART, October 1999. Draft Decision: Access Arrangement for AGL Gas Networks Ltd Natural Gas System in NSW.

An examination of working capital for gas transmission businesses indicates values of working capital equivalent to net lags of 4 to 20 days.[62] Working capital for two gas distribution businesses has been set at levels equivalent to zero, 90 and 200 days.[63] The larger of these net lags was for the Albury Gas Company which may have an abnormally large working capital requirement by virtue of relatively small business size and volatile cash flows. Working capital was not explicitly considered in Access Arrangements for the Victorian distribution systems.

AlintaGas's proposed working capital of $13 million in 2000 corresponds to a net lag of 134 days. This requirement appears relatively high in comparison to other distribution systems. The Regulator considers a net lag of 100 days to be a more realistic value for the AlintaGas distribution business, corresponding to a working capital requirement of $10.0 million in 2000.

AlintaGas has proposed escalating the value of working capital each year by a factor of one plus the rate of change in the CPI, and calculating a return on working capital by multiplying by the nominal pre-tax rate of return (11.2 percent). This is inconsistent with the calculation of a rate of return where pre-tax nominal rates are used. Instead, the return on working capital should be determined by multiplying the nominal pre-tax rate of return by a level of working capital that is not escalated for inflation.

Adjusted values for working capital and the return on working capital are shown below.

Revised return on working capital (nominal $million; year ending 31 December)

	2000	2001	2002	2003	2004
Value of working capital	10.0	10.0	10.0	10.0	10.0
Return on working capital	1.1	1.1	1.1	1.1	0.6

Revised Total Revenue

The Regulator revised the Total Revenue requirement for the distribution systems according to revisions made to the Initial Capital Base, Capital Expenditure, Non-Capital Costs and working capital, and corrections to the calculation of the return on capital and the return on working capital.

The revised calculation of the return on capital and the revised Total Revenue are as follows.

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[62] Access Arrangements or proposed Access Arrangements for AGL Pipelines Limited, Central West Pipeline; East Australian Pipeline Limited, Moomba to Sydney Pipeline; Epic Energy Pty Limited, Moomba to Adelaide Pipeline; NT Gas Pty Ltd, Amadeus Basin to Darwin Pipeline; TPA, Victorian Gas Transmission Access Arrangement.

[63] Figures are respectively from: IPART, December 1999, Final Decision: Albury Gas Company Limited; IPART, October 1999, Draft Decision: Access Arrangement for AGL Gas Networks Ltd Natural Gas System in NSW; IPART, September 1999, Access Arrangement for the Great Southern Energy Networks Wagga Wagga Distribution System.

Revised return on capital

	2000	2001	2002	2003	2004
Opening asset value (real $million)	510.2	519.0	521.5	520.3	518.0
Capital expenditure (real $million)	25.1	19.8	16.6	16.2	13.7
Depreciation (real $million)	16.3	17.2	17.9	18.5	19.0
Closing asset value (real $million)	519.0	521.5	520.3	518.0	512.7
Average asset value (real $million)	514.6	520.3	520.9	519.2	515.4
Return on Capital (real $million)	40.7	41.1	41.2	41.0	40.7
Return on Capital (nominal $million)	41.2	42.7	43.8	44.7	45.5

Revised Total Revenue (nominal $million)

	2000	2001	2002	2003	2004
Return on Capital	41.2	42.7	43.8	44.7	45.5
Depreciation	16.5	17.9	19.0	20.1	21.3
Return on Working Capital	1.1	1.1	1.1	1.1	0.6
Non-Capital Costs	36.4	35.2	35.4	36.3	37.7
Total Revenue	**95.2**	**96.9**	**99.3**	**102.3**	**105.1**
AlintaGas proposed Total Revenue	**101.1**	**103.4**	**106.4**	**109.4**	**112.2**

The following amendments are required before the Access Arrangement will be approved.

Amendment 33

The Access Arrangement and Access Arrangement Information should be amended to reflect a working capital requirement of $10.0 million in each year of the Access Arrangement Period and a return on working capital determined by multiplication of the level of working capital by the nominal pre-tax rate of return.

Amendment 34

The Access Arrangement and Access Arrangement Information should be amended to reflect a Total Revenue requirement as follows:

Year	**2000**	**2001**	**2002**	**2003**	**2004**
Revenue ($million)	95.2	96.9	99.3	102.3	105.1

5.9 REVENUE ALLOCATION

5.9.1 Access Code Requirements

In determining Reference Tariffs, a Service Provider must determine (explicitly or implicitly) the costs or share of costs of pipeline operation that will be recovered through each Reference Service, and from each User. Rules for the allocation of costs/revenues between services and Users are provided in sections 8.38 to 8.43 of the Code.

Allocation of Costs/Revenue Between Services

Section 8.38 of the Code requires that Reference Tariffs should be designed to only recover that portion of Total Revenue which includes:

(a) all of the Total Revenue that reflects costs incurred (including capital costs) that are directly attributable to the Reference Service; and

(b) a share of the Total Revenue that reflects costs incurred (including capital costs) that are attributable to providing the Reference Service jointly with other Services, with this share to be determined in accordance with a methodology that meets the objectives in section 8.1 of the Code and is otherwise fair and reasonable.

Section 8.39 of the Code provides for the Regulator to require a different methodology to be used for cost/revenue allocation than may have been proposed by a Service Provider in an Access Arrangement pursuant to section 8.38 of the Code. However, if such a requirement is proposed, the Regulator must provide a detailed explanation of the methodology that is required to be used.

Section 8.40 of the Code addresses the allocation of Total Revenue between Reference Services and Rebatable Services. A Rebatable Service is defined in the Code as a Service where:

(a) there is substantial uncertainty regarding expected future revenue from sales of that Service due to the nature of the Service and/or the market for that Service; and

(b) the nature of the Service and the market for that Service is substantially different to any Reference Service and the market for that Reference Service.

If a Reference Service is provided jointly with a Rebatable Service, then all or part of the Total Revenue that would have been recovered from the Rebatable Service under section 8.38 of the Code (if that Service was a Reference Service) may be recovered from the Reference Service provided that an appropriate portion of any revenue realised from sales of any such Rebatable Service is rebated to Users of the Reference Service (either through a reduction in the Reference Tariff or through a direct rebate to the relevant User or Users). The structure of such a rebate mechanism should be determined having regard to certain objectives:

(a) providing the Service Provider with an incentive to promote the efficient use of Capacity, including through the sale of Rebatable Services; and

(b) Users of the Reference Service sharing in the gains from additional sales of Services, including from sales of Rebatable Services.

Section 8.41 provides a Service Provider with discretion to adopt alternative approaches to cost/revenue allocation subject to any approach adopted having substantially the same effect as the approach outlined in section 8.38 and 8.40 of the Code.

Allocation of Costs/Revenue Between Users

Section 8.42 relates to the allocation of Total Revenue between Users and requires that, subject to provisions for prudent discounts in section 8.43 of the Code, Reference Tariffs be designed such that the proportion of Total Revenue recovered from a actual or forecast sales of a Reference Service to a particular User of that Service is consistent with the principles described in section 8.38 of the Code.

Prudent Discounts

Section 8.43 of the Code provides for a Service Provider to give prudent discounts on Reference Tariffs, or equivalent tariffs for Non Reference Services, in particular circumstances. A User receiving a discount would be paying a proportion of Total Revenue that is less than the proportion that would be paid by the User under the principles of sections 8.38 and 8.40 of the Code. Section 8.43 of the Code provides for such a discount to be given to a User if:

(a) the nature of the market in which a User or Prospective User of a Reference Service or some other Service operates, or the price of alternative fuels available to such a User or Prospective User, is such that the Service, if priced at the nearest Reference Tariff (or, if the Service is not a Reference Service, at the equivalent tariff) would not be used by that User or Prospective User; and

(b) a Reference Tariff (or equivalent tariff) calculated without regard to revenues from that User or Prospective User would be greater than the Reference Tariff (or equivalent tariff) if calculated having regard to revenues received from that User or Prospective User on the basis that it is served at a price less than the Reference Tariff (or equivalent tariff).

Condition (b) effectively requires that the discounted tariff must return a revenue that is in excess of the avoidable cost of providing the service to the User. That is, the User receiving the discount must still pay a price for the service that covers the incremental costs of providing that service as well as making some contribution to common costs that are met jointly by all Users. By virtue of the contribution to common costs, the Reference Tariffs for all other Users would be lower than if the User eligible for the discount did not purchase the service.

The proportion of Total Revenue that comprises the discount may be recovered from other users of the Reference Service or some other service or services in a manner that the Regulator is satisfied is fair and reasonable.

5.9.2 Access Arrangement Proposal

The methodology used by AlintaGas to allocate Total Revenue across services is described in section 2.5 of the Access Arrangement Information. The allocation methodology had the following principal steps.

i. Costs were allocated into three “cost baskets”:

– asset costs, comprising the return on the capital base and depreciation costs;

– operating and maintenance costs; and

– other costs, comprising the return on working capital, marketing costs and corporate overhead costs.

ii. Costs from the asset cost basket and the operating and maintenance cost basket were allocated into cost pools broadly relating to three categories of assets making up the distribution network:

– the high pressure system;

– the medium/low pressure system; and

– metering.

The allocation of asset costs into three cost pools was undertaken according to the proportions of total capital costs attributable to individual classes of assets (AlintaGas Allocator 2).

The allocation of operating and maintenance costs to cost pools was undertaken according to ratios of the replacement costs of assets in each cost pool to the total replacement cost of distribution system assets (AlintaGas Allocator 1).

iii. Costs from the "other costs" basket and from each cost pool were allocated to two groups of Reference Services:

– Reference Service A; and

– Reference Services B1, B2 and B3.

Costs in the high pressure system cost pool were allocated to the service groups according to estimated contributions of services in each category to system peak flows (AlintaGas Allocator 3).

Costs in the medium/low pressure system cost pool were allocated to the service groups according to estimated contributions of services in each category to forecast gas volumes delivered for each category, weighted according to load factors for each service (AlintaGas Allocator 6).

Costs in the metering cost pool were allocated entirely to the service group comprising Reference Services B1, B2 and B3.

Costs in the "other costs" basket were allocated to the service groups according to two criteria. 20 percent of the "other costs" were allocated to the service groups on the basis of proportions of forecast gas volumes delivered for each service group (AlintaGas Allocator 4). The remaining 80 percent of the "other costs" were allocated on the basis of proportions of the forecast numbers of delivery points for each service group (AlintaGas Allocator 7).

iv. For the service group comprising Reference Services B1, B2 and B3, costs derived from the "other costs" basket and each cost pool were allocated to the individual services.

Costs derived from the high pressure system cost pool were allocated to each service in proportion to the estimated contributions of each service to forecast total gas volume delivered (AlintaGas Allocator 5).

Costs derived from the medium/low pressure system cost pool were allocated to each service in proportion to estimated contributions of each service to forecast gas volumes delivered for each category, weighted according to load factors for each service (AlintaGas Allocator 6).

Costs derived from the metering cost pool were allocated to services B2 and B3 in proportion to the cost-weighted number of delivery points for each service (meters for service B2 are larger and more expensive than for service B3) (AlintaGas Allocator 8).

Costs derived from the "other costs" basket were allocated to each service according to two criteria. 20 percent of the "other costs" were allocated to each service on the basis of proportions of forecast gas volumes delivered for each service category (AlintaGas Allocator 4). The remaining 80 percent of the "other costs" were allocated on the basis of proportions of the forecast numbers of delivery points for each service category (AlintaGas Allocator 7).

The allocation of Total Revenue across services effectively determines the average tariff for gas distribution for each service. The revenue allocation proposed by AlintaGas and the average distribution tariffs for each service are indicated as follows.

AlintaGas proposed allocation of Total Revenue across services (2000)

Reference Service	Revenue Allocation	Average Distribution Tariff
A	8.3 million	$0.54/GJ
B1	16.2 million	$4.40/GJ
B2	5.3 million	$5.98/GJ
B3	71.3 million	$9.06/GJ
Total	101.1 million	$3.63/GJ

5.9.3 Submissions from Interested Parties

Verification of AlintaGas Cost Allocators

- Office of Energy

The Regulator will need to verify the determination of the allocation percentages based on the principles adopted for the cost allocation methodology.

An unverified estimate in relation to Allocator 3 (contribution to system peak flow), for example, has indicated that the allocation of high pressure system costs to Reference Service A may be based on an

excessively high load factor assumed for the usage of the high pressure system by Reference Service A Users.

The Regulator re-calculated the allocation percentages used by AlintaGas in the allocation of Total Revenue and is satisfied that the calculation of these percentages is reproducible. Allocator 3 was is consistent with an assumed load factor for Reference Service A of 75 percent and corresponding peak factor of 1.33, and a system load factor of 72 percent and peak factor of 1.39. These load factor and peak factor values are considered reasonable for Reference Service A given the nature of the large industrial end users of gas to whom the service would be applicable.

The Regulator has noted, however, that there are minor errors in AlintaGas's cost allocation methodology. These errors arise in respect of the following cost allocation steps.

- Allocation to each of the References Services B1, B2 and B3 of costs derived from the medium/low pressure system cost pool and allocated to these services collectively.

- Allocation to each of Reference Services B1, B2 and B3 of costs derived from the "other costs" basket to these services.

These errors arise due to the relevant cost allocators (Allocators 4, 6 and 7) denoting percentage allocations to all four of the Reference Services and not just References Services B1, B2 and B3. As a result, the percentage allocations to Reference Services B1, B2 and B3 do not sum to one. If these cost allocators were used as written in the Access arrangement, there would be an "unallocated" amount of Total Revenue equal to a few hundred thousand dollars. However, despite the apparent error in the Access Arrangement Information, it is noted that AlintaGas's actual determination of Reference Tariffs is correct.

Capital Expenditure

- Office of Energy

  It may be prudent for the Regulator to request a clarification on expected New Facilities Investment already accounted for in the derivation of the Reference Tariffs for the Access Arrangement Period and on how this relates to the Extensions/Expansions Policy in the Access Arrangement. The Regulator will need to verify the allocation of future expenditure to the different services and determine whether they have been allocated reasonably.

AlintaGas's Extensions/Expansions Policy states that an extension or expansion which is treated as part of the AlintaGas network will not affect Reference Tariffs for the remainder of the Access Arrangement Period (Clause 58(1) of the Access Arrangement). Provision is, however, made for AlintaGas to impose surcharges or seek capital contributions in respect of New Facilities Investment as provided for under the Code (Clause 58(2) of the Access Arrangement). Section 8.25 of the Code prevents AlintaGas from imposing a surcharge on a User for any Extension or Expansion of the AlintaGas network where the cost of the relevant New Facilities Investment would be recovered under prevailing tariffs. This prevents AlintaGas from imposing a surcharge for any New Facilities Investment for which the Capital Cost has been incorporated, in full, into the determination of Reference Tariffs. Furthermore, the proportion of the cost of New Facilities Investment that is recovered from a surcharge may not be added to the Capital Base when the Access Arrangement is reviewed.

Proposed New Facilities Investment over the Access Arrangement Period relates predominantly to mains extensions and upgrades and to meters and service pipes. The cost

allocation methodology proposed by AlintaGas allocates capital costs associated with mains (the high pressure and medium low pressure systems) principally on the basis of contribution of each service to peak system flow and gas quantities distributed. Metering costs are allocated on the basis of numbers of delivery points. The Regulator regards this allocation methodology as being generally consistent with the incremental costs of providing additional services being met by the Users of those services, and therefore being consistent with an efficient allocation of costs.

Cross Subsidies

- Australian Energy Advisors

  The actual tariff setting does not appear to be based upon the chosen deprival asset values at all. For example, the deprival value of the meters and service pipes in Table 3.3 is $60.8 million, which is 11.4% of the total deprival value of $530.3 million, but Allocator 2 in Table 2.2 shows an allocation of 18.4% of capital-related costs to meters. Where, then, is the logical relationship between the defined valuation of assets, the return required on those assets, and the allocation of those costs to the Users of the particular assets in an equitable fashion? How is the cross-subsidy actually being implemented?

In considering the value of the Initial Capital Base, the Regulator accepted the general methodology used by AlintaGas. This methodology involved determining a value of the Initial Capital Base so as to return a particular Total Revenue, given assumptions as to capital costs, the rate of return, depreciation schedule, and operating costs. In view of this methodology, the setting of Reference Tariffs did not involve a unidirectional procedure through determination of the Initial Capital Base, determination of a reasonable rate of return, determination of other costs and translation into Reference Tariffs. Nevertheless, the Regulator considers the methodologies used to value the Initial Capital Base and determine Reference Tariffs to be logical and appropriate to the circumstances of AlintaGas.

AlintaGas has used a fully distributed cost model for the allocation of costs between services, including the allocation of capital costs (return on capital and depreciation). This model is described in section 2.5 of the Access Arrangement Information, relating to cost allocation. Further assumptions in allocation of these costs are implicit in apportionment of the Initial Capital Base across classes of assets. The allocation of capital costs that is implicit in this valuation does not represent a cross subsidy. The issue of cross subsidy relates to the allocation of the avoidable costs of providing services and not capital costs arising from sunk investment.

In regard to allocation of capital costs to the metering cost pool, Allocator 2 reflects the proportions of capital costs associated with particular asset classes, and reflects the rate of return and depreciation costs for assets in each class. While the value of metering assets comprised only 11.4 percent of the Initial Capital Base, the capital costs associated with metering assets comprise a disproportionately high percentage (18.4 percent) of capital costs. This difference arises from the faster rate of depreciation of metering assets than for other classes of assets.

5.9.4 Additional Considerations of the Regulator

In considering the allocation of Total Revenue between the four Reference Services, the Regulator considered criteria of "economic efficiency" and "equity".

Economic efficiency considerations would generally require that the revenue allocated to each service would cover at least the avoidable cost of providing the service. For common or fixed costs, and particularly capital costs (return on capital and depreciation), economic efficiency would require that these costs be allocated to services in a manner that minimises the deviation in decisions of Users from a situation in which Users paid only the avoidable cost of a service.

Equity considerations, on the other hand, would generally require that the revenue allocated to each service would cover at least the avoidable cost of providing the service, but would also require that common costs be allocated such that each service bears an "equitable" share of these costs. Allocation of costs on the basis of the equity criterion is generally consistent with a fully distributed cost methodology that assigns directly identifiable costs to services, along with a share of fixed/common costs that are not directly related to any particular service.

AlintaGas has proposed a fully distributed cost model of cost allocation. This general approach to cost allocation has been accepted by other Australian regulators in all Draft and Final Decisions on gas transmission and distribution systems under the Code to date. Details of cost distribution models in particular cases have, however, differed.

The methodology used by AlintaGas for the allocation of Total Revenue is examined below in terms of the three cost baskets created by AlintaGas: asset costs, operating and maintenance costs and other costs.

Asset Costs

Asset costs, or capital costs, comprise the return to capital and a return of capital (depreciation).

In deriving Total Revenue, AlintaGas calculated capital costs separately for three broad classes of assets: high-pressure system assets, medium/low pressure system assets, and metering assets. The proportion of capital costs attributed to each class is reflected in Allocator 2.

Capital costs associated with the high pressure and medium/low pressure system assets are allocated to services on the basis of proportions of throughput, expressed either as contributions to system peak flow or load-factor-weighted volume. Capital costs associated with the metering assets are allocated entirely to Reference Services B2 and B3, and divided between these services on the basis of number of delivery points, which would correspond to number of meters. No metering costs are allocated to Reference Services A and B1 as metering costs for these services are levied on Users as specific service charges and have not been included in Total Revenue for the purposes of calculating Reference Tariffs.

Additional cost allocation decisions for capital costs are also implicit in the manner in which AlintaGas derived the initial capital values of assets in different asset classes. Particular asset classes were purportedly valued such that, given other assumptions as to the determination and allocation of capital costs and other costs, the resultant average distribution tariffs for each Reference Service approximate the current implicit charges for gas distribution. This does not represent a cross subsidy between services as the concept of a cross subsidy is only relevant in the context of the avoidable (i.e. forward-looking) costs of providing a service. However, consideration of current implicit charges for gas distribution does represent an

additional criterion of cost allocation that potentially reflects the interests of Users and a reasonable expectation of Users that application of the regulatory regime should not give rise to increases in distribution tariffs and gas prices.

A fully distributed cost allocation of capital costs, as used by AlintaGas, would be generally acceptable to Users. This is evident in the public submissions from the Office of Energy in relation to cost allocation, and other submissions relating to perceived cross subsidies implicit in determination of the Initial Capital Base (addressed in Section 5.3.3 of this Draft Decision). A fully distributed allocation of capital costs is also consistent with regulatory precedent in decisions for other Australian transmission pipelines and distribution systems. On this basis, the Regulator sees no reason to reject AlintaGas's proposed allocation of costs.

Operating and Maintenance Costs

Operating and maintenance costs comprise Non-Capital Costs other than marketing costs and corporate costs. These would generally constitute avoidable costs of service provision. Both efficiency and equity criteria of cost allocation would require that these costs be allocated across services in a manner that reflects the origin of the costs.

AlintaGas's allocation of operating costs involves first allocating operating and maintenance costs to the cost pools for asset classes (high pressure system pool, medium/low pressure system pool and metering pool) and subsequent allocation from the cost pools to services on the basis of either throughput parameters (high pressure system pool, medium/low pressure system assets) or numbers of delivery points (metering pool). The allocation of operating and maintenance costs to the cost pools was undertaken according to ratios of the replacement cost of assets relating to each pool, to the total replacement cost of all assets (AlintaGas Allocator 1). However, there is no reason to expect that operating and maintenance costs would be proportional to the replacement costs of assets, and hence no reason to expect this cost allocation to be reflective of actual costs relating to the operation and maintenance activities associated with each class of assets. As a consequence, the allocation of operating and maintenance costs may not be consistent with the allocation to each service of avoidable costs of service provision.

The Regulator considers that a more appropriate methodology for allocation of operating and maintenance costs would be to allocate these costs directly to assets or services on the basis of the type of operating activity to which the costs relate. Common operating costs could be allocated in a manner reflecting a proportional sharing of these costs across services. Such a methodology would, in principle, be consistent with ensuring that the revenue recovered from each service would cover at least the avoidable cost of providing the service. Notwithstanding this, however, the Regulator notes that the bulk of the costs allocated to each service comprise capital costs. As a consequence, the revenue recovered from each service would in all probability cover the avoidable cost of providing the service regardless of the methodology for allocating operating and maintenance costs. On this basis, the Regulator sees no reason to reject AlintaGas's proposed allocation of operating and maintenance costs.

Other Costs

"Other costs" comprise marketing costs, corporate costs and the return on working capital. These costs can be regarded as common costs across services.

AlintaGas has allocated the other costs between services partially (20 percent) on the basis of the quantity of gas delivered for each service as a proportion of the total quantity of gas delivered, and partially (80 percent) on the basis of the number of delivery points for each service as a proportion of the total number of delivery points. The Regulator considers that this cost allocation is generally reflective of a reasonable sharing of common costs across services and Users consistent with an equity criterion in a fully distributed cost model.

Revised Revenue Allocation

While the Regulator accepts AlintaGas's methodology for allocation of Total Revenue, the allocation of revenue across services will vary from that proposed by AlintaGas as a result of revisions to underlying cost parameters. The revised revenue allocation is shown below.

AlintaGas proposed allocation of Total Revenue across services (2000)

	AlintaGas Proposed Allocation		Revised Allocation	
Reference Service	**Revenue Allocation**	**Average Distribution Tariff**	**Revenue Allocation**	**Average Distribution Tariff**
A	8.3 million	$0.54/GJ	7.8 million	$0.51/GJ
B1	16.2 million	$4.40/GJ	15.2 million	$4.13/GJ
B2	5.3 million	$5.98/GJ	5.0 million	$5.63/GJ
B3	71.3 million	$9.06/GJ	67.2 million	$8.54/GJ
Total	101.1 million	$3.63/GJ	95.2 million	$3.42/GJ

Over the Access Arrangement Period, the reduction in revenues proposed by the Regulator gives rise to a reduction in the discounted weighted average tariff of 5 percent.

5.10 REFERENCE TARIFFS

5.10.1 Access Code Requirements

The final stage of cost allocation is the allocation of target revenue for each Reference Service to the various charges that make up each Reference Tariff. The Code does not establish explicit rules or guidelines for the structuring of Reference Tariffs. However, in setting out the general objectives for Reference Tariffs and a Reference Tariff policy, section 8.1 of the Code states that a Reference Tariff and Reference Tariff Policy should be designed with a view to achieving efficiency in the level and structure of the Reference Tariff.

In addition to the requirements of the Code, further requirements in respect of the setting of Reference Tariffs are imposed by the *Gas Pipelines Access (Western Australia) Act 1998* on the Regulator. Section 38 of the Act requires the Regulator to take into account the fixing of appropriate charges as a means of extending effective competition in the supply of natural gas to residential and small business consumers. "Appropriate charges" refers to charges for the use of the pipeline to transport small quantities of natural gas that will enable suppliers to compete for the custom of residential and small business consumers. "Small quantities"

refers to a quantity of gas that is less than a quantity prescribed by the Minister, but is in any case a quantity of less than one terajoule in any period of 12 consecutive months that is transported to a single metered connection. In respect of the AlintaGas distribution systems, this would correspond to supply of gas under Reference Services B2 and B3.

5.10.2 Access Arrangement Proposal

AlintaGas has structured Reference Tariffs to recover the target revenue allocated to each service on the basis of standing charges that would apply uniformly to all Users of a Service and demand and/or usage charges that vary for each User in proportion to their level of use of a service.

Revenue allocated to Reference Service A is allocated to standing, demand and usage charges in proportions of 30 percent, 35 percent and 35 percent respectively. Demand and usage charges are segregated into distance-related tariffs based on the minimum straight-line distance of the delivery point from the nearest transmission pipeline (either the Dampier to Bunbury Natural Gas Pipeline or the Parmelia Pipeline). Different rates apply to the first 10 km distance and to any distance in excess of 10 km.

Revenue allocated to the Reference Services B1, B2 and B3 is allocated to standing and usage charges. For Reference Services B2 and B3, the usage charges comprise a block structure for different levels of gas use. No information was provided by AlintaGas as to the basis for the proportions of revenue intended to be recovered from different charges.

In addition to the standing, demand and usage components of Reference Tariffs, the Access Arrangement makes provision in the specification of Reference Tariffs for user specific charges to be levied on Users of Reference Service A and B1. The user specific charges are to reflect the costs to AlintaGas of providing the user specific delivery facilities under a haulage contract. The costs of the user specific delivery facilities have not been included in the Total Revenue that is intended to be recovered from Reference Tariffs.

The Reference Tariffs proposed by AlintaGas are indicated below. Tariffs have been set only for the first year of the Access Arrangement Period. AlintaGas has proposed that tariffs in subsequent years are able to be varied in accordance with a "revenue yield" regime. The variation of Reference Tariffs is discussed in section 5.11, below.

AlintaGas's proposed Reference Tariffs

Reference Service	Standing Charge	Block Structure	Demand Charge	Usage Charge
	($/annum)		**($/GJ–km/year)**	**($/GJ–km)**
A	50,000.00	First 10 km	179.29	0.04675
		> 10 km	89.64	0.02337
				($/GJ)
B1	500.00	–	–	4.35
B2	200.00	First 100 GJ	–	5.46
		> 100 GJ	–	4.91
B3	25.00	First 15 GJ	–	8.72
		Next 30 GJ	–	6.54
		Next 55 GJ	–	5.67
		>100 GJ	–	5.23

In addition to the above charges, the Access Arrangement makes provision for the Reference Tariffs for Reference Services A and B1 to include user specific charges for user specific delivery facilities.

5.10.3 Submissions from Interested Parties

Public submissions on the Access Arrangement raised concerns in relation to the proposed determination of charges for user specific charges and the proposed tariff structure for Reference Service A. These submissions are summarised and responded to below.

User Specific Charge

- CMS Submission No 3

  The basis for determining the user specific charge is not stated. It is suggested that such a basis be provided.

  Clause 21(3)(d) of Chapter 3 of the Access Arrangement states that the user specific charge to be applied to Users of Reference Service A is reflective of the costs incurred by AlintaGas in providing the facilities, which may consist of capital costs and non-capital costs. CMS are concerned that insufficient information is provided to enable Prospective Users to determine how this charge is calculated.

Clause 21(d) of the Access Arrangement indicates that the user specific charge is to be an amount per year which reflects the costs to AlintaGas of providing the user specific delivery facilities under a Haulage Contract for either Reference Service A or Reference Service B1. Clause 64(1) of the Access Arrangement defines user specific facilities as:

(a) a meter which is not a standard 6 m^3/hr meter or a standard 12 m^3/hr meter;

(b) service pipe from the main to the delivery point;

(c) a user specific pressure regulator; and

(d) any ancillary pipes and equipment,

being the facility or facilities which are the most appropriate for that User, as determined by AlintaGas as a reasonable person.

No information was provided in the Access Arrangement or Access Arrangement information regarding the determination of user specific charges.

AlintaGas has indicated to the Regulator that the user specific charge would comprise an amortised cost of the user specific delivery facilities over a cost recovery period determined on the basis of the characteristics and circumstances of individual Users. The Regulator notes this is the same method as used by AlintaGas to determine a service price under the pricing provisions of the Gas Distribution Regulations 1996.[64]

The Regulator accepts that it is reasonable for user specific charges to be determined on a case by case basis for individual Users of Reference Services A and B1. However, the Regulator considers that Users can reasonably expect that the Access Arrangement should indicate the general methodology to be used in calculating the user specific delivery charges and the rate of return to be used for amortisation of costs of user specific delivery facilities.

The following amendment is required before the Access Arrangement will be approved.

Amendment 35 The Access Arrangement should be amended to include a statement of general methodology for the determination of user specific delivery charges, and to indicate the rate of return implicit in amortisation of costs of user specific delivery facilities.

Reference Service A Tariff Structure – Tariff Components

- Office of Energy

  In relation to Reference Tariff A, the Regulator should consider whether the parameter values in the demand charge and the usage charge block structures reflect the cost of providing capacity and delivering gas over a range of distribution distances, and whether the ratio of costs allocated to the standing, demand and usage charges reflects the cost of providing infrastructure and distributing gas for a range of capacities, volumes and distribution distances. Particular consideration should be given to the effect of these matters on the economic efficiency of the State's gas distribution systems.

- CMS Submission No 2

  The tariffs for Reference Service A proposed in the AlintaGas Access Arrangement are generally substantially higher than those currently prevailing under the Gas Distribution Regulations. The $50,000 per annum standing charge proposed by AlintaGas for Reference Service A is to a large extent responsible for the increase in tariffs over those currently prevailing under the Gas Distribution Regulations. The imposition of a $50,000 per year standing charge constitutes a substantial barrier to entry for third party

[64] AlintaGas, 25 June 1997, *Gas Distribution Access Pricing Methods*.

producers, retailers and traders alike. Any barriers to entry to any market mitigate against competition, and the ability of end customers of gas to exercise choice over gas supplier, retailer or trader.

- Chamber of Minerals and Energy Submission No 2

  The impact of a fixed charge bears most heavily on those at the minimum thresholds for use of the Reference Tariff and to this extent does represent a barrier to entry at that end. The Chamber believes that the costs and benefits of the standing charge require further investigation as part of an efficient Reference Tariff.

- Chamber of Commerce and Industry

  CCI has been informed and would like O*ff*GAR to examine the claim that in most cases any savings a potential User in the Perth metropolitan area may gain from the lessening of the distance component of the tariff structure are more than offset by the imposition of the standing charge.

- Chamber of Commerce and Industry

  CCI recognises that the standing charge covers the costs of installing, operating and maintaining a gas distribution system. However, O*ff*GAR must ensure that the standing charge and the resulting Reference Tariff A accurately reflect the cost of providing the Reference Service.

- Apache Energy Limited

  The proposed standing charge imposes an immediate distribution cost on users. Admittedly the standing charge reduces as offtake increases but it still remains a significant cost. Again, in conjunction with the demand and usage charges, by pass is likely to have considerable appeal. In any event, such standing charges are not likely to foster greater competition amongst gas suppliers but rather block their access to AlintaGas's market.

The costs of providing Reference Service A comprise predominantly the fixed costs associated with sunk capital investment and common operating and maintenance costs. The costs allocated to Reference Service A were deemed by the Regulator to reflect a reasonable sharing of the total costs of service provision, as discussed in section 5.9 of this Draft Decision. The tariff structure for Reference Service A embeds a further allocation of costs, in this case between Users of the service.

Efficiency criteria would, in principle, require that costs be allocated across Users (by means of the tariff structure) in such a way that usage of distribution services differs as little as possible from the "efficient" patterns of usage that would arise where Users face only the marginal cost of service provision. This allocation of costs would not necessarily correspond to a "cost reflective" allocation of fixed costs that instead would reflect some form of equity criterion based on a concept reasonable sharing of fixed costs across Users.

The Regulator considers that the structure of Reference Tariffs should be a matter of commercial discretion for a Service Provider, subject to any proposed tariff structure not being inconsistent with broad criteria of efficiency and equity. The Regulator's assessment of the tariff structures proposed by AlintaGas is described below under "Additional Considerations of the Regulator". The assessment of the proposed tariff structure for Reference Service A was based primarily on the following criteria.

- The tariff structures should be consistent with all Users paying at least the avoidable cost of the gas distribution service that they receive.

- Proposed tariff structures should not give rise to abrupt large changes in distribution costs for Users relative to distribution costs that would be incurred under the current regulatory regime.

The Regulator will require that AlintaGas amend the proposed tariff structure for Reference Service A to ensure consistency with these criteria. This may involve changes to one or more of the standing, demand and usage components of the tariff.

- Chamber of Commerce and Industry

  CCI is unsure how the peak demand factor, a variable used in the calculation of the Demand Charge for Reference Tariff A, is to be calculated under the proposed Access Arrangements. *Off*GAR needs to clarify the measurement of the peak demand factor.

Clause 21(2)(b) of the Access Arrangement indicates that the demand charge for Reference Service A is calculated for each year by multiplying the demand charge rate by the User's contracted peak rate (expressed in gigajoules per hour to three decimal places) and multiplying the resulting amount by the interconnection distance for the User (expressed in kilometres to one decimal place). The contracted peak rate is defined in clause 64 of the Access Arrangement as the rate specified in the User's haulage contract as the highest instantaneous flow rate for gas delivery through the User's delivery point.

The contracted peak rate for a User of Reference Service A (the peak demand factor) would be established by agreement between the User and AlintaGas.

Reference Service A Tariff Structure – Distance Charges

- Office of Energy

  Reference Service B1, Reference Service B2, and Reference Service B3 will be charged an average cost reflective price whereas Reference Service A will have distance related cost reflective pricing. In determining the appropriate threshold the Regulator should consider such matters as the administration cost savings of uniform pricing and the economic efficiency gains of distance related charging.

AlintaGas has advised the Regulator that distance based charging was adopted for Reference Service A for the reason that this service is generally provided from the high pressure system, for which relatively stable flow paths can be identified from transmission pipeline off-takes to delivery points. Conversely, Reference Services B1, B2 and B3 typically involve the delivery of gas via the medium and low pressure systems which form an interconnected network, and flow paths of gas to individual delivery points cannot be readily identified.

While the Regulator accepts that distances of gas flow can be readily estimated for the high pressure system but not for the medium and low pressure systems, this does not in itself justify distance based charges for Reference Service A. AlintaGas has proposed distance-based charges determined on the basis of straight-line distances between delivery points and the nearest transmission pipeline. These distances do not necessarily bear any relationship to the distance of gas flow through the high pressure system to the delivery point for a User of Reference Service A. Notwithstanding this, the Regulator considers that the distance-based charges for Reference Service A determined on the basis of straight line distance to the nearest transmission pipeline are justified by the forward-looking incentives that such charges create for efficient capital expenditure in extensions to the high pressure system vis a vis Users by-passing the distribution network. This is discussed in more detail below in relation

to submissions questioning the measure of interconnection distance used by AlintaGas in determining charges for Reference Service A.

- Office of Energy

  In respect of the demand and usage charge for Reference Service A being structured into blocks determined by distance, an argument is being made that cost differs as a result of the distance. It is argued that Users requiring Reference Service A for delivery of gas to delivery points located at distances greater than about 10 km from the nearest transmission pipeline are usually supplying at delivery points in urban fringe and rural areas, where the costs of pipe laying are lower than in more densely populated urban areas. The Regulator would need to seek information verifying this argument and especially the reasonableness for the 10 km distance. There also may be a need for the Regulator to verify the composition and cost structure for those within the 10 km distance to ensure that they are not subsidising the extension of the system.

AlintaGas has proposed distance-based demand tariffs and usage tariffs for Reference Service A with unit tariffs for distances of greater than 10 km being half of the unit tariffs for distances of less than 10 km. AlintaGas has indicated to the regulator that the lower rates for distances greater than 10 km reflects lower costs of pipeline construction in rural vis a vis urban areas. The "break point" of 10 km was determined on the basis of broad observation that delivery points located more than 10 km from a transmission pipeline were generally located in rural areas. In support of the differences in rates, AlintaGas cited "difficulty factors" applied by GHD to base unit rates of pipeline construction for the purposes of estimating optimised replacement values of pipelines in different situations of development density and ground conditions. The difficulty factors were as follows.

Difficulty factors cited by AlintaGas for estimating costs of pipeline construction

	Ground condition	
Development Density	**Sand**	**Rock**
Outer urban	1.0	1.8
Middle/Inner Urban	1.4	2.2
CBD	2.0	2.8

These difficulty factors suggest that a proportional difference in tariffs that reflects different construction costs for rural areas versus urban areas should be in the order of 0.7 to 0.8 (based on difficulty factors for outer urban and middle/inner-urban development densities) rather than 0.5 as proposed by AlintaGas in the tariff structure for Reference Service A.

The Regulator considers that if AlintaGas wishes to base differences in demand and usage charges for Reference Service A on differences in costs, the rates should reflect the available information on cost differentials.

The following amendment is required before the Access Arrangement will be approved.

> Amendment 36
>
> Should AlintaGas wish to maintain differences in demand and usage charges for Reference Service A on the basis of differences in pipeline construction costs, these charges (clause 21 of the Access Arrangement) should be amended to reflect available information on cost differentials.

Reference A Tariff Structure – Interconnection Distance

- Chamber of Commerce and Industry

  In the proposed Access Arrangement it is not clear as to how many decimal places the interconnection distance, in kilometres, is to be determined, and thus used to calculate Reference Tariff A. *Off*GAR needs to clarify how accurately interconnection distances are to be determined.

AlintaGas has advised the Regulator that for the purposes of determining distance-related charges for Reference Service A, the interconnection distance from a delivery point to the nearest transmission pipeline will be determined in kilometres to one decimal place.

- Chamber of Commerce and Industry

  The demand charge and usage charge components of Reference Tariff A are a function, inter alia, of the shortest distance from the User's gas delivery point to either the Parmelia Pipeline or DBNGP, whichever is closer. *Off*GAR should examine whether this is reflective of the cost of providing the service and therefore whether this is contrary or not to the Reference Tariff principles.

- Chamber of Minerals and Energy Submission No 2

  The Chamber notes that the demand charge element of the tariff is based upon distance as the crow flies from delivery point to the nearest transmission pipeline, irrespective of the actual distance of connection. The regime explicitly states that this "is intended to mitigate the risk of inefficient by-pass of the AlintaGas network". The Chamber is concerned that this places protection of AlintaGas's revenue base above reflecting the actual costs of pipeline usage. If price signals are used which do not accurately transmit underlying costs, efficient use of the pipeline will be impeded.

- CMS Submission No 1

  The tariff for the proposed Reference Service A is calculated, inter alia, on the basis of interconnection distance. The use of interconnection distance as defined in the proposed Access Arrangement for the determination of Reference Tariff A is contrary to one of the fundamental principles of the Code. CMS suggests that AlintaGas issues a variation to its proposed Access Arrangement which withdraws the currently proposed method of determining the tariff for Reference Service A and puts in its place a method which is fair and in accordance with the intent of the Code.

- Office of Energy

  In respect of Reference Service A, the Regulator would need to be satisfied that the use of the distance from the nearest transmission pipeline is reasonable from the perspective that it effectively embeds a prudent discount which is shared by all other Users.

- Western Power

  Western Power is aware that the National Code describes a number of objectives for the development of Reference Tariffs. These include recovery of efficient costs, promotion of safety, competitive markets and economic efficiency. Western Power is of the view that AlintaGas has allocated costs to the Reference

Services primarily on the basis of the economic efficiency criterion of lessening the opportunity for network by-pass.

- Apache Energy Limited

  The calculation of the demand charge and usage charge under Reference Tariff A has, as one of its components, the distance to the closest transmission pipeline. The use of this distance invites by-pass, given the tariffs that result from Reference Tariff A calculations. In other words, Apache believes the prices are artificially high.

The tariff structure proposed by AlintaGas for Reference Service A includes demand and usage charges that are calculated on the basis of rates per unit of distance of the delivery point from the nearest transmission pipeline (currently either the DBNGP or the Parmelia Pipeline). The public submissions have indicated a concern that this method of calculating distribution charges may not reflect the actual costs of delivery, since the distance used to calculate tariffs would be less than the actual distance of gas transport. Concern was also expressed that in proposing this basis for tariff calculation, AlintaGas may be aiming to discourage Users from by-passing the AlintaGas distribution systems and connecting directly to a transmission pipeline, and that this may have adverse efficiency implications for gas distribution.

The Regulator examined the efficiency implications of AlintaGas's proposed distance-based tariffs. The efficiency implications vary depending upon whether the connection from the delivery point to transmission pipeline is already in existence.

For an existing connection, costs have already been incurred in establishing pipeline infrastructure. Determination of distribution tariffs on the basis of any gas-transport distance greater than that of a direct connection to a transmission pipeline would create an incentive for the User to abandon the existing connection to the distribution network and establish the direct connection. Arguably this would constitute an inefficient duplication of infrastructure. Construction of a direct connection would result in capital costs being incurred for supply of gas to the User, over and above the existing sunk costs in the distribution network. As these costs will ultimately be borne by Users of the distribution systems, the end result will be increased costs to society for gas distribution. For this reason, the Regulator considers it reasonable and desirable to determine tariffs for Reference Service A on the basis of distance to the nearest transmission pipeline in circumstances where there is an existing connection for the relevant User to the AlintaGas network.

In circumstances where there is no existing connection to a delivery point for a Prospective User of Reference Service A, provision of a gas supply to that Prospective User could be achieved by either a direct connection of the delivery point to a transmission pipeline, or an extension of the AlintaGas network. Either option would involve incurring capital costs. The Regulator is of the opinion that the determination of distance-based charges for Reference Service A should be consistent with motivating the least-cost investment option.

Where the distance (and cost) of an extension to the AlintaGas network is less than or equal to the distance (and cost) of a direct connection to a transmission pipeline, determination of Reference Service A tariffs on the basis of distance to the nearest transmission pipeline is consistent with motivating an efficient choice of gas distribution option by the Prospective User.

Where the distance (and cost) of an extension to the AlintaGas network is greater than or equal to the distance (and cost) of a direct connection to a transmission pipeline, there is the likelihood that the costs of a connection to the AlintaGas network would exceed the most efficient costs of developing the necessary distribution capability. If AlintaGas were to extend the network without any additional capital contribution from the Prospective User, the under-recovery of costs in the distance-based tariffs may result in increased distribution costs being passed on to other Users of the network. Furthermore, the costs of providing the distribution capability may be greater than the most efficient cost that would be incurred in a direct connection to a transmission pipeline. As the new User of the distribution service would not be fully meeting the avoidable cost of service provision there would be an element of cross subsidy if the additional cost was passed on to existing Users, and resulting inefficiencies in the distribution systems.

Such cross-subsidisation of new connections to the AlintaGas network would, however, only occur if AlintaGas were to roll-in the incremental capital investment into the Capital Base for the distribution systems. Where the tariff revenue from an additional User does not meet the incremental or avoidable cost of providing a service to that User, it is unlikely that the capital expenditure of the network extension (or at least that some portion of this expenditure) would meet the criteria for additions to the Capital Base as set out in section 8.16 of the Code. Without the rolling-in of additional capital expenditure into the Capital Base, capital costs of a network extension that are in excess of the costs recovered in the distance-based tariffs proposed by AlintaGas would not be recovered in Reference Tariffs levied on other Users. Rather, the cost would have to be met by capital contributions from the new User, classed as speculative investment within the meaning of section 8.19 of the Code, or borne by AlintaGas without recovery through distribution tariffs. Subject to the Regulator having sufficient information to assess capital expenditure against the criteria set out in section 8.16 of the Code, and to prevent expenditure not meeting these criteria from being rolled into the Capital Base, these alternatives for cost disposition are consistent with motivating efficient investment in either extensions to the AlintaGas network or direct connections to transmission pipelines.

Ensuring that incremental costs of servicing new Users of Reference Service A are not cross subsidised by existing Users would require assessment of relevant network extensions on a case by case basis. Given the relatively small number of Users of Reference Service A, this is regarded as administratively feasible subject to the necessary information being compiled by AlintaGas and provided to the Regulator at any time of review of the Access Arrangement. The Regulator considers the proposal by AlintaGas for the calculation of distance-based charges on the basis of distance to the nearest transmission pipeline to be acceptable, but will seek to rigorously scrutinise relevant capital expenditure in future reviews of the Access Arrangement.

- CMS Submission No 2

  The textual definition of interconnection distance implies that Reference Tariff A is calculated on the basis of the straight line distance from a customer's gas receipt point to either the Parmelia Pipeline or the DBNGP, whichever is closer. Analysis by CMS of the relevant calculations performed by AlintaGas in its Access Arrangement Information document indicates that AlintaGas has used the distances to the nearest DBNGP gate station and not the distance to the nearest pipeline, in its determination of projected future revenues from Reference Service A as described in its Access Arrangement Information. The inconsistency between the textual description of the nature of Reference Tariff A and the means of calculating projected future revenues for Reference Service A for the purposes of tariff determination presents a potential problem for AlintaGas and for possible future owners of the AlintaGas network. CMS respectfully suggests

that AlintaGas provides clarification and commentary on the distances used for the purposes of determining projected future revenues for the purposes of tariff determination.

In determining the tariff schedule for Reference Service A, AlintaGas allocated the required revenue for this service to a standing charge, a demand charge and a usage charge. Rates for the demand and usage tariffs were determined by dividing the revenue to be recovered from each tariff by the forecast volume-distances of gas transportation, and setting the tariffs for "less than 10 km" interconnection distances at twice the tariffs for the "greater than 10 km" interconnection distances.

The Regulator checked these calculations against information provided by AlintaGas on distances and gas volumes for envisaged Users of Reference Service A. This check substantiated the volume-distances used by AlintaGas for the determination of demand and usage tariffs for the "less than 10 km" interconnection distances.

Comparison of Proposed Reference Tariffs with Current Charges for Gas Distribution

- Chamber of Minerals and Energy Submission No 1

  While the existing and proposed tariffs are not directly comparable due to differing coverage and availability, initial analysis suggests that, were the Reference Tariffs to be the actual average price outcomes, Users would pay considerably higher prices than those currently posted in virtually all cases. This suggests either that initial tariffs were set at too low a level or that the new levels are too high.

- Apache Energy Limited

  Apache's calculations indicate that, for the same service, the proposed Reference Tariffs are considerably higher than those currently applying under the 1996 GDRs. For a 1 TJ/day customer at interconnection distances of 1, 5 and 15km, the respective proposed tariffs (and increases) are $0.22/GJ (+$0.20), $0.51/GJ (+$0.42) and $0.98/GJ (+$0.47). One cannot help but think that the pricing is designed to ensure no access by third parties to AlintaGas customers.

In assessing the proposed tariff structure for Reference Service A, the Regulator compared the average cost of gas distribution that would be faced by Users under the proposed Reference Service A tariff and the Gas Distribution Regulations (the GDR tariff). This comparison is described bebw under "Additional Considerations of the Regulator".

The relative costs of gas distribution under the two tariff structures vary with the distances of the User from the nearest transmission pipeline (on which the tariff for Reference Service A is based) and from the nearest gate station on the DBNGP (on which the GDR tariff is based). The relative costs also vary with the quantity of gas delivered to the User.

The comparative analysis of gas distribution costs undertaken by the Regulator indicated generally that average gas distribution costs under the two tariff structures may differ significantly. Actual differences are dependent upon the quantity of gas delivered, and the distances of the delivery point from the nearest transmission pipeline and the nearest DBNGP gate station.

In general, Users receiving gas at delivery points close to a transmission pipeline and receiving relatively small quantities of gas would be worse off under the Reference Service A tariff than the GDR tariff. Users receiving gas at delivery points located further from the transmission pipeline and receiving large quantities of gas may face similar gas distribution costs under the Reference Service A tariff as under the GDR tariff, or may be better off, depending upon relative distances to a transmission pipeline and a DBNGP gate station.

Users receiving gas at delivery points located at small distances from a transmission pipeline (less than about 5 km) would generally face higher gas distribution costs under the proposed tariff for Reference Service A than under the GDR tariff, with costs potentially an order of magnitude higher.

The Regulator considers that the structure of Reference Tariffs should be largely a matter of discretion for the Service Provider, subject to consistency with broad criteria of efficiency and equity. The Regulator has no in principle difficulty with the revenue allocated to Reference Service A or the structure of the Reference Tariff. However, the Regulator considers that where the potential costs of gas distribution under the tariff for Reference Service A are substantially greater than would be incurred under the GDR tariff, that the new tariff structure should be phased in over the Access Arrangement period to avoid large changes in potential costs of gas distribution in any one year. The Regulator will require that the Access Arrangement be amended to make provision for transitional arrangements in the tariff structure for Reference Service A.

Quantity Forecasts and Reference Tariffs

- Office of Energy

  The Regulator would need to be satisfied as to the validity of the volume forecasts. It may be that the decrease in volume indicates customers being lost to by-pass. One reason for inability to prevent by-pass could lie in inefficient distribution pricing.

The Regulator did not undertake a detailed review of quantity forecasts. However, it is noted that for at least Reference Services B2 and B3, the forecast increase in gas quantities for the Access Arrangement Period are generally consistent with actual rates of increase in customer numbers over the period 1996 to 1999, as indicated below. Low rates of projected growth in quantity for Reference Services A and B1 are inconsistent with a relatively high rate of growth in numbers of contract customers in the past. While the absence of growth for the services may arise from practices of distribution pricing and consequent by-pass, the Regulator regards this to be a commercial matter for AlintaGas and not of direct relevance to the assessment of the Access Arrangement.

AlintaGas average annual rates of increases in customer numbers and gas quantities

Average annual percentage increase in customer numbers 1996 to 1999[65]		AlintaGas forecast average annual percentage increase in gas quantity 2000 to 2004	
Contract	7.2	Reference Services A and B1	0.4
Business	2.5	Reference Service B2	1.8
Residential	3.6	Reference Service B3	3.4

[65] AlintaGas, 1999. *Annual Report* p63.

5.10.4 Additional Considerations of the Regulator

Efficient prices for services are those prices that encourage efficient outcomes.

Economic efficiency can be described as an outcome whereby it is impossible to reallocate resources between uses, or to change production techniques, and/or to trade goods between customers in order to make consumers *as a group* better off. Where there is inefficiency, the removal of that inefficiency would, in principle, make consumers *as a group* better off.

Three components of economic efficiency normally are distinguished, which are:

i. *allocative efficiency* – which means that the right mix of goods and services is being produced;

ii. *productive efficiency* – which means that the mix of goods and services is being produced at lowest cost; and

iii. *dynamic efficiency* – which means that the right mix of goods and services continues to be produced for the lowest cost over time.

In a purely competitive market, the efficient pricing rule is *price = marginal cost*. As customers have to pay the cost that it takes society to produce any good, this rule will make them choose the goods and services they value most highly – allocative efficiency. Similarly, the producers who can produce for the lowest cost get to sell their wares – and so productive efficiency results. Note that the role of competition is to force prices down to marginal cost so that when customers choose the lowest priced item, they are also selecting the lowest cost item for society to produce. The role of competition in generating efficiency is discussed further below.

In an industry that is characterised with economies of scale and scope (such as gas distribution), a pricing rule based on *price = marginal cost* would leave investors unable to recover all of their costs, and so fail to attract investment into industry in the future, violating allocative and dynamic efficiency. Efficiency can, however, be achieved by modifying pricing principles as follows.

- Delivery of revenue on a per customer basis that is equal to or lower than the *stand-alone cost* of providing the service – which is the cost of duplicating the service to that customer, using least cost technology.

- Delivery of revenue on a per customer basis that is equal to or higher than the *avoidable cost* of providing the service – which is the (forward looking) cost that the service provider could avoid by ceasing to provide service to that customer.

- Minimise the effect on the usage of the facility from *efficient* levels – the efficient use of the facility would occur if all Users paid the marginal cost of usage. The allocation of joint and common costs should be designed to minimise the impact on usage from the efficient level that would arise under marginal cost pricing.

The first two criteria are commonly referred to as the upper and lower bounds for efficient prices.

The practical rationale for the *upper bound* is that if individual customers were charged more than the cost of duplicating their service (using least cost technology), then this might induce them to by-pass the system. If this resulted in costs being borne that exceed the avoidable cost of serving that customer through the existing system, then this would result in society incurring costs that are unnecessary, and so wasteful. As customers as a whole generally bear all of the costs incurred in providing their service, this would increase the total costs they would bear (i.e. costs of the incumbent and by-passing the system), and so increase average prices from what they otherwise would have been.

The practical rationale for the *lower bound* is that if customers pay less than the avoidable cost of providing their service, then:

- the customer might choose to take the service even thought they place a low value upon it; or

- the customer might choose to take service through the existing network, even though there might be cheaper options available to provide the service potential (for example, if faced with the costs they cause, the customer might be happy with using electricity for all energy needs).

If customers take a service that they do not value, then consumer benefit can be increased by diverting those resources to other uses, and if customers choose a higher cost means of providing a service (such as energy supply), then the costs incurred in providing that service to customers is higher, and so prices to customers for that service would be higher on average. In addition, if an individual customer causes more (forward looking) costs to be incurred than they pay for through tariffs (and other charges), then they generate more costs than revenue for the service provider – and so cause tariffs for all other customers to be higher as a result.

On the basis of these considerations of efficiency, a tariff structure should comply with the following broad criteria.

- All Users should pay at least the avoidable cost of the gas distribution service that they receive.

- For the last unit of a gas distributed by a User, the marginal charge to that User should be equal or close to the marginal cost of distribution.

A tariff structure also has efficiency implications beyond Users of the distribution service, in particular for end users of gas that ultimately bear the cost of distribution charges. Distribution charges form a component of the final price of gas. The structure of distribution tariffs will affect the marginal cost of incremental units of gas delivered to an end user, and consequently decisions of that end user as to the use of gas. An efficient structure of Reference Tariffs for distribution should be consistent with, or at least not be contrary to, price signals to end users of gas that motivate efficient gas use. In general, this would require that the structure of distribution tariffs should reflect efficiency considerations as described above.

There are also equity criteria against which a tariff structure can be assessed. A tariff structure allocates costs across Users of a particular service. As with the allocation of Total Revenue between services (section 5.9 of this Draft Decision), reasonable equity

considerations would require that revenue allocated to each service cover at least the avoidable cost of providing the service and that common costs be allocated such that each User bears an "equitable" share of these costs.

A further equity consideration relates to changes in distribution costs from those applying prior to the Access Arrangement coming into effect. Equity considerations would require that proposed tariff structures under the Access Arrangement should not give rise to abrupt large changes in distribution costs for Users. This does not preclude tariff structures that differ from the tariff structures under existing regulations, but would require that substantial changes to the tariff structure be phased in progressively

In practice, it would not be possible to implement a tariff structure that would meet the above efficiency and equity criteria for all Users of the Reference Services and for all end users of gas. Strict compliance with efficiency and equity criteria would require tariff structures to be tailored to each User and end user according to levels of gas use and the particular assets used to deliver gas. There would be obvious practical difficulties in doing so, and consequent inefficiencies arising from high administrative costs. As a consequence, a tariff structure will generally not meet strict criteria of efficiency and equity.

The Regulator considers that the structure of Reference Tariffs should be a matter of commercial discretion for a Service Provider, subject to any proposed tariff structure not being unreasonably inconsistent with criteria of efficiency and equity. In addition, the Regulator is obliged by section 38 of the Gas Pipelines Access (Western Australia) Act to consider whether a proposed tariff structure for a Reference Service relating to residential and/or small-businesses end users of gas is consistent with extending effective competition in the supply of natural gas to these end users.

In assessing AlintaGas's proposed Reference Tariff structures against these broad principles, the Regulator identified three matters of concern.

i. Differences in prospective gas distribution costs under Reference Service A and the gas distribution costs under the *Gas Distribution Regulations 1996.*

ii. Differences in prospective gas distribution costs under Reference Services A and B1 at levels of gas use close to the "cross-over" between the two services.

iii. Inconsistency of distribution charges for Reference Services B2 and B3 with regulated retail tariffs for gas distributed under these services and consequent prospects for effective competition in the supply of gas to residential and small-business end users of gas.

These matters are addressed below.

Gas Distribution Costs under Reference Service A and the Gas Distribution Regulations

Distribution charges are currently regulated under the *Gas Distribution Regulations 1996* for distribution of gas to large industrial end users of gas (>100 TJ/year) through AlintaGas's high pressure system. The distribution service provided to these end users would correspond to Reference Service A as proposed under the Access Arrangement.

AlintaGas has proposed a tariff structure for Reference Service A that comprises a constant standing charge for all customers; a demand charge based on the MDQ for each customer and

the distance of the delivery point from the nearest transmission pipeline; and a usage charge based on the quantity of gas delivered to the delivery point and the distance of the delivery point from the nearest transmission pipeline. For the demand and usage charge, different unit rates apply to the first 10 km of distance from the nearest transmission pipeline, and any additional distance. AlintaGas has set the standing, demand and usage charges to recover approximately 30 percent, 35 percent and 35 percent, respectively, of revenue allocated to Reference Service A.

The *Gas Distribution Regulations* do not specify prices for gas distribution, but rather provide for AlintaGas to determine prices in accordance with guidelines set out in the Regulations and subject to consideration of any recommendations as to pricing methods or prices made by the Coordinator of Energy under section 6 of the *Energy Coordination Act 1994*. The prices currently set by AlintaGas under the *Gas Distribution Regulations* (hereafter referred to as the GDR tariff) comprise three charges:

i. a service price, set to recover user specific costs separately for each User;

ii. a demand price, set to recover 60 percent of common costs and levied as a charge per unit of peak demand (in GJ/hour) per km of distance from the nearest gate station on the DBNGP; and

iii. an energy price, set to recover 40 percent of common costs and levied as a charge per unit of energy throughput (in GJ) per km of distance from the nearest gate station on the DBNGP.

For the purposes of comparison with the Reference Service A tariff schedule, only the demand and energy components of the GDR tariff are relevant since user specific costs are recovered separately under both tariff structures.

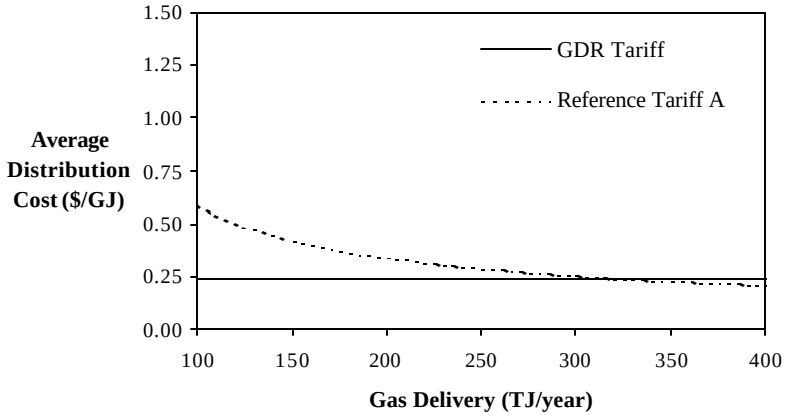
The Regulator compared average costs of gas distribution that would apply to a User under the GDR tariff and the Reference Service A tariff proposed by AlintaGas. The comparison was made under the following assumptions.

- The demand price and energy price under the Gas Distribution Regulations are as specified in the *Gas Distribution Access Pricing Redetermination 1998/99* ($0.0138 per gigajoule–kilometre and $0.0198 per gigajoule–kilometre, respectively) and scaled according to a sub-network factor of 0.8.

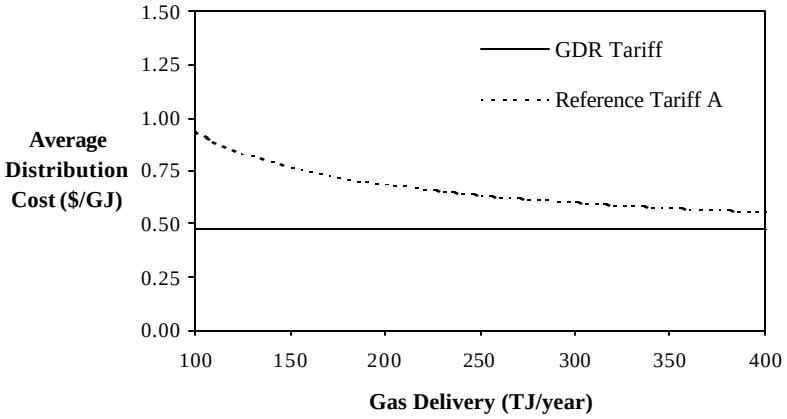
- The contracted peak rate for a User (in GJ/hour) is two times the average hourly rate of gas delivery (in GJ/hour) for that User.

- The distance fom the delivery point to the nearest gate station is a multiple of the shortest distance to a transmission pipeline, with multiplying factors being 5, 2, 1.5 and 1 for hypothetical Users located 1 km, 5 km, 10 km and 20 km from the nearest transmission pipeline, respectively.

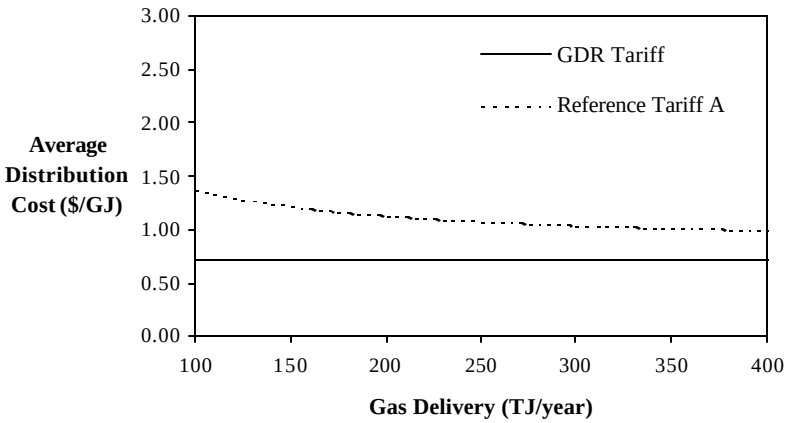
Comparisons of average gas distribution costs under the GDR tariffs and AlintaGas's proposed tariffs for Reference Service A are shown below for distances of delivery points from the closest transmission pipeline of 1, 5, 10 and 20 km.



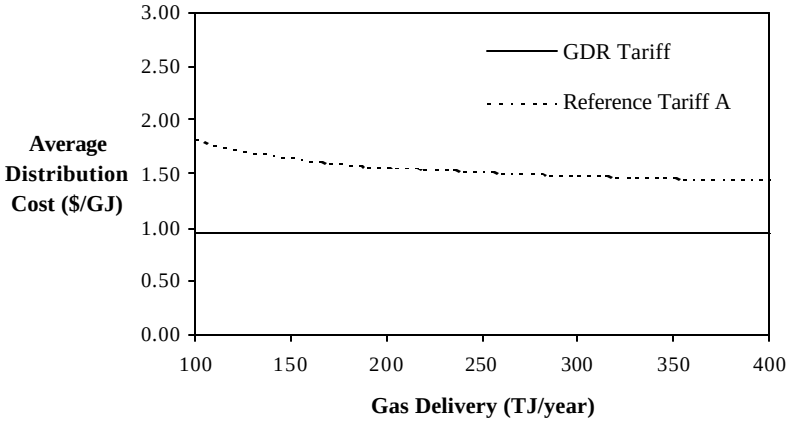
(a) Average gas distribution costs with distance from delivery point to transmission pipeline of 1 km



(b) Average gas distribution costs with distance from delivery point to transmission pipeline of 5 km



(c) Average gas distribution costs with distance from delivery point to transmission pipeline of 10 km



(d) Average gas distribution costs with distance from delivery point to transmission pipeline of 20 km

The above comparisons indicate that average gas distribution costs under the two tariff structures may differ significantly, with distribution costs under Reference Service A generally higher than would have occurred under the *Gas Distribution Regulations*. Actual differences are dependent upon the quantity of gas delivered to the User and the distance of the delivery point from the nearest transmission pipeline and relevant DBNGP gate station. Further analysis indicates that the extent of difference in gas distribution costs to a User under the two tariff structures is dependent upon the relative distances of the delivery point to the relevant DBNGP gate station and to the nearest transmission pipeline. Differences in average gas distribution costs persist with the amendments to costs that are required by the Regulator under this Draft Decision.

The Regulator considers that large changes in average costs of gas distribution in the transition from the GDR tariff to the Reference Service A tariff are inconsistent with equity considerations for Users.

The following amendment is required before the Access Arrangement will be approved.

Amendment 37 Clause 21 of the Access Arrangement should be amended to provide a tariff structure for Reference Service A (or a succession of tariff structures for each year of the Access Arrangement Period) that accommodates a reasonable transition to the Reference Service A tariff from distribution tariffs that would have occurred for Users under the *Gas Distribution Regulations 1996*.

The Regulator recognises that such an amendment may not, in itself, be accomplished in a manner that is revenue neutral for AlintaGas and that consideration may need to be given to transitional arrangements in cost allocation.

Gas Distribution Costs under Reference Services A and B1

Eligibility of a User to obtain Reference Service A or Reference Service B1 is determined on the basis of the quantity of gas anticipated to be delivered to the relevant delivery point, and the requested contracted peak rate for the delivery point. A User may take delivery of gas under Reference Service A if:

i. it is reasonably anticipated that the User would take delivery of 35 TJ or more of gas during each year of the haulage contract; and

ii the User has requested a contracted peak rate of 10 GJ or more per hour.

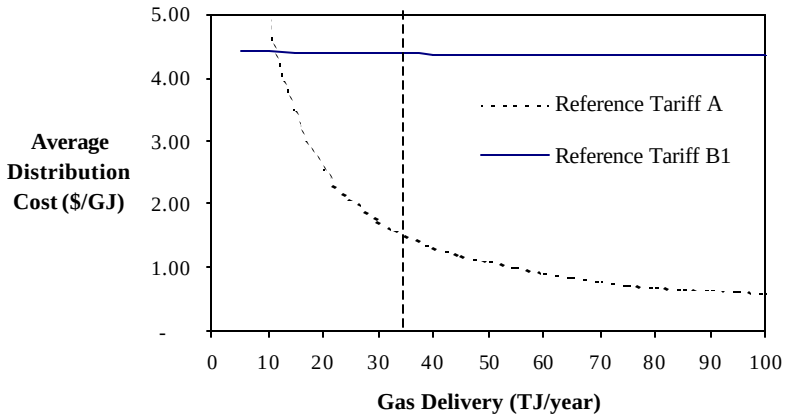
A User may take delivery of gas under Reference Service B1 if:

i. it is reasonably anticipated that the User would take delivery of less than 35 TJ of gas during one or more years of the haulage contract; or

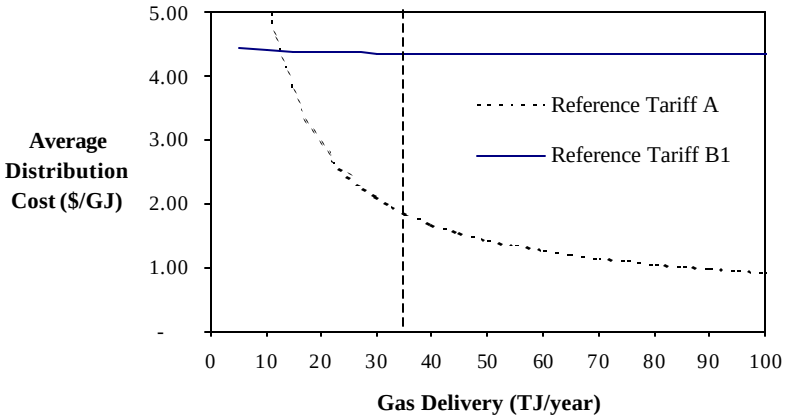
ii. the User has requested a contracted peak rate of less than 10 GJ per hour.

Where gas is delivered to a User at quantities close to 35 TJ of gas per year and at a contracted peak rate of close to 10 GJ/hour, there may be no material practical difference in the nature of the delivery service provided to the User, regardless of whether this service is provided as Reference Service A or Reference Service B1. However, by virtue of the different tariff structures for Reference Service A and Reference Service B1, the User may face substantially different costs of gas distribution depending upon the service which the User is eligible to receive. The differences in cost may motivate the User (or the end user of the gas) to alter the level or rate of gas use solely for the purpose of becoming eligible for a distribution service with a lower average tariff. This may result in the inefficient use of gas resources.

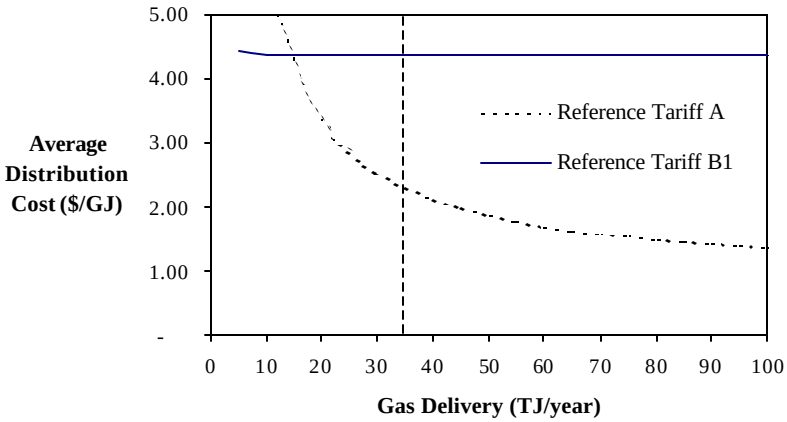
The Regulator compared average costs of gas distribution that would apply to a User under the tariffs proposed by AlintaGas for Reference Services A and B1. The tariff structure for Reference Service A was described above. The tariff structure for Reference Service B1 comprises a standing charge of $500 and a usage charge of $4.35/GJ. Comparisons of average gas distribution costs are shown below for distances of delivery points from the closest transmission pipeline of 1, 5, 10 and 20 km.



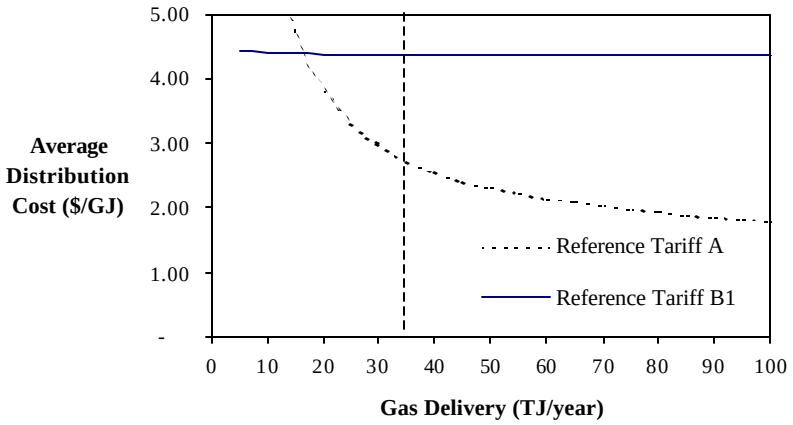
(a) Average gas distribution costs for Reference Services A and B1 with distance from delivery point to transmission pipeline of 1 km



(b) Average gas distribution costs for Reference Services A and B1 with distance from delivery point to transmission pipeline of 5 km



(c) Average gas distribution costs for Reference Services A and B1 with distance from delivery point to transmission pipeline of 10 km



(d) Average gas distribution costs for Reference Services A and B1 with distance from delivery point to transmission pipeline of 1 km

The comparisons of average gas distribution costs indicate substantial differences in average cost between the Reference Service A and Reference Service B1 at quantities of gas delivered close to 35 TJ/year. Differences in average gas distribution costs persist with changes to the revenue allocated to Reference Services A and B1 as described in section 5.9 of this Draft Decision.

The differences in distribution cost are sufficiently large to give rise to incentives for end users of gas to take delivery of larger quantities of gas in order to reduce total gas costs. For example, on the basis of cost parameters assumed by AlintaGas, the Regulator has estimated that an end user taking delivery of 30 TJ/year of gas under Reference Service B1 would be able to take delivery of and flare off an additional 5 TJ/year of gas, qualify for gas delivery under Reference Service A and still derive a saving in total gas costs in the order of 11 percent.

The Regulator considers that the incentives for inefficient use of gas created by the tariff structures for Reference Services A and B1 are unacceptable and the tariff structures should be amended to provide for a seamless transition in gas distribution costs between Reference Services A and B1.

The following amendment is required before the Access Arrangement will be approved.

Amendment 38 Clauses 21 and 22 of the Access Arrangement should be amended to provide tariff structures for Reference Services A and B1 that allow for a reasonably seamless transition in gas distribution charges between these two services.

Retail Margins for Reference Services B2 and B3

Under section 38 of the *Gas Pipelines Access (Western Australia) Act 1998*, the Regulator is obliged to take into account the fixing of appropriate distribution charges as a means of extending effective competition in the supply of natural gas to small-business and residential

consumers. The delivery of gas to small-business and residential consumers would occur predominantly under Reference Services B2 and B3.

The retail prices of gas supplied to residential and small-businesses consumers is regulated under the *Gas Corporation (Charges) By-laws 1996* that specify maximum retail gas tariffs. These tariffs comprise standing charges and a block structure of usage charges.

The Regulator has interpreted the obligations of section 38 of the Act as requiring that the level and structure of distribution tariffs for Reference Services B2 and B3 are consistent with a retail margin in the supply of gas that is sufficiently large to enable gas traders to enter the market for gas supply to small-business and residential customers.

Reviews of retail margins for supply of natural gas have been undertaken by IPART.[66] IPART discussed retail margins in terms of net and gross retail margins, defined as follows.

- *Gross retail margin* – the margin on gas sales before interest, tax and retail costs, but after all other costs.

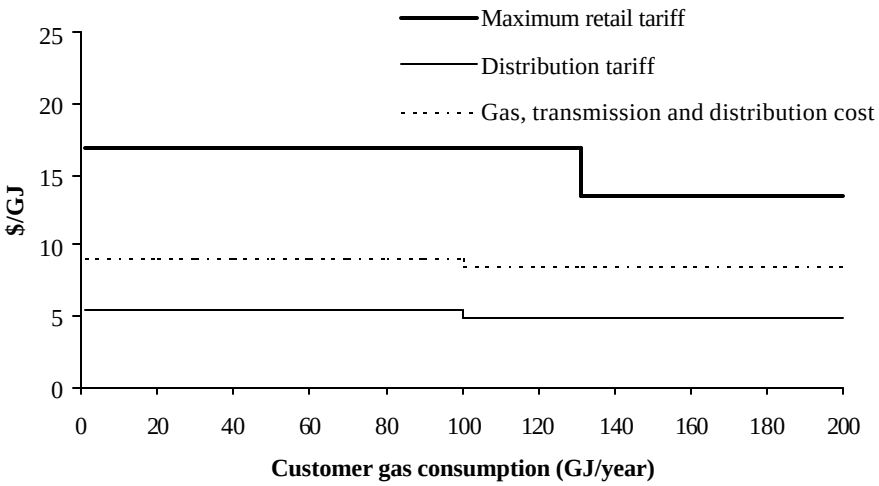
- *Net retail margin* – the margin on gas sales before interest and tax, but after all other costs (including retail costs) have been accounted for.

In regulatory decisions on retail prices and revenues, IPART has contemplated a gross retail margin of 6.6 percent for the electricity industry, and net retail margins of 2 percent for gas supply (with retail margins varying between 1 percent for contract services and 3 percent for usage-tariff services). In a draft decision on retail gas prices in Wagga Wagga, IPART has indicated tacit approval of net retail margins of 2 to 4 percent.

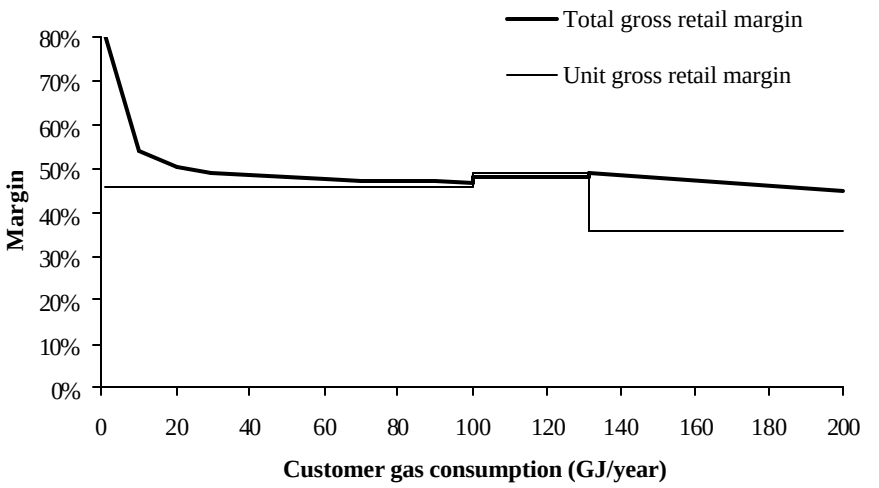
By virtue of block structures of retail and distribution tariffs, retail margins for individual customers of AlintaGas's proposed Reference Services B2 and B3 will differ for different gas-quantity blocks. The differences between retail tariffs and assumed supply costs[67] are shown below for each of these services, together with gross retail margins.

[66] IPART, June 1999, *Pricing for Electricity Networks and Retail Supply.* IPART, October 1999, *Draft Decision Review of the Delivered Price of Natural Gas in Wagga Wagga and Albury.*

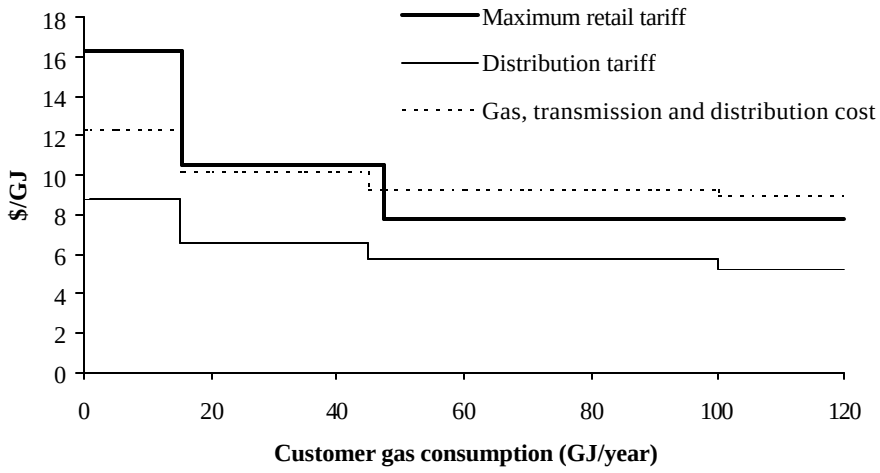
[67] Supply costs comprise the distribution tariffs proposed by AlintaGas, and the Regulator's assumed gas cost of $2.18/GJ and gas transmission cost of $1.50/GJ.



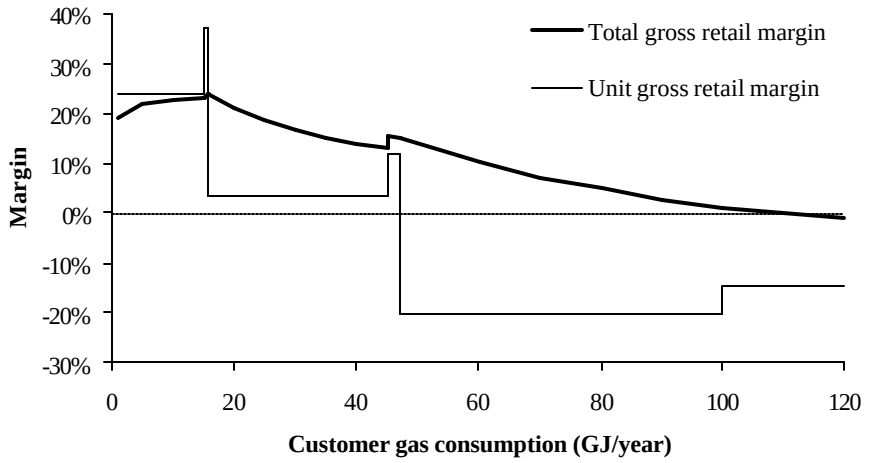
Block structures of maximum retail tariffs for general supply of gas and supply costs for delivery of gas under Reference Service B2



Total and unit gross retail margins for general supply of gas, with gas delivery under Reference Service B2



Block structures of maximum retail tariffs for residential gas customers and supply costs for delivery of gas under Reference Service B3



Total and unit gross retail margins for gas supply to residential gas customers, with gas delivery under Reference Service B3

The retail margins for Reference Service B2 are relatively high, with gross retail margins varying from 34 to 48 percent for different gas-quantity blocks, and a total gross retail margin of approximately 45 percent for gas delivery up to 200 GJ/day for individual customers.

The retail margins for Reference Service B3 are substantially lower than for Reference Service B2. While retail margins are relatively high for the first 15 GJ per annum delivered

to a customer (gross retail margin of 22 percent), lower retail margins apply to subsequent gas quantity blocks. For the 15 to 30 GJ/year gas-quantity block, the gross retail margin is 1 percent, and the gross retail margin is negative for gas quantity blocks of 47 to 100 GJ/year and greater than 100 GJ/year. The total gross retail margin for a customer declines with increasing gas consumption by that customer, becoming negative for gas consumption of greater than 100 GJ/year.

These characteristics of retail margins for Reference Services B2 and B3 persist with changes to the revenue allocated to these services as described in section 5.9 of this Draft Decision.

The Regulator considers that the low and/or negative retail margins for certain gas-quantity blocks in the supply of gas to residential customers under Reference Service B3 would impede the development and continuation of effective competition in the supply of natural gas to these customers, particularly for large residential customers consuming more than 45 GJ/year. The Regulator considers that the tariff structure for Reference Service B3 should make provision for reasonable retail margins.

The following amendment is required before the Access Arrangement will be approved.

Amendment 39 Clause 24 of the Access Arrangement should be amended to provide a tariff structure for Reference Service B3 that makes provision for reasonable retail margins for a User providing gas to residential end users of gas, both in total for any residential end user and for any gas-quantity block.

The Regulator notes that whilst regulated retail prices for gas remain in force, the retail margins and consequences for contestability and competition in the retail gas markets will be an ongoing matter of concern in the regulation of distribution tariffs, and in any reviews of the Access Arrangement.

5.11 REFERENCE TARIFF VARIATION AND INCENTIVE MECHANISMS

5.11.1 Access Code Requirements

The Code addresses variation in Reference Tariffs over the Access Arrangement Period in terms of two general matters:

i. variation in Reference Tariffs at the discretion of the Service Provider and according to principles such as a predetermined price path or realised cost and sales outcomes for the Service Provider; and

ii. within the scope of (i), variation of Reference Tariffs according to principles of an Incentive Mechanism.

The provisions of the Code relating to these matters are outlined as follows.

Variation in Reference Tariffs at the Discretion of the Service Provider

Section 8.3 of the Code provides for the Service Provider to have discretion as to the manner in which Reference Tariffs vary across an Access Arrangement Period, subject to the

Regulator being satisfied that such variation is consistent with the objectives for Reference Tariffs contained in section 8.1 of the Code. Section 8.3 of the Code goes on to indicate that, for example, a Reference Tariff may be varied across the Access Arrangement Period by means of:

(a) a price path approach, whereby a series of Reference Tariffs are determined in advance for the Access Arrangement Period to follow a path that is forecast to deliver a revenue stream calculated consistently with the principles in section 8 of the Code, but is not adjusted to account for subsequent events until the commencement of the next Access Arrangement Period;

(b) a cost of service approach, whereby the Tariff is set on the basis of the anticipated costs of providing the Reference Service and is adjusted continuously in light of actual outcomes (such as sales volumes and actual costs) to ensure that the Tariff recovers the actual costs of providing the Service; or

(c) variations or combinations of these approaches.

Incentive Mechanism

Sections 8.44 to 8.46 of the Code state the principles for establishing an Incentive Mechanism within the Reference Tariff Policy and the objectives which the Incentive Mechanism should seek to meet.

Section 8.44 of the Code requires that the Reference Tariff Policy should, wherever the Relevant Regulator considers appropriate, contain a mechanism that permits the Service Provider to retain all, or a share of, any returns to the Service Provider from the sale of a Reference Service during an Access Arrangement Period that exceeds the level of returns expected at the beginning of the Access Arrangement Period (an Incentive Mechanism), particularly where the additional returns are attributable (at least in part) to the efforts of the Service Provider. Such additional returns may result, amongst other things, from lower Non-Capital Costs or greater sales of Services than forecast.

Section 8.45 states that an Incentive Mechanism may include (but is not limited to) the following:

(a) specifying the Reference Tariff that will apply during each year of the Access Arrangement Period based on forecasts of all relevant variables (and which may assume that the Service Provider can achieve defined efficiency gains) regardless of the realised values for those variables;

(b) specifying a target for revenue from the sale of all Services provided by means of the covered pipeline, and specifying that a certain proportion of any revenue received in excess of that target shall be retained by the Service Provider and that the remainder must be used to reduce the Tariffs for all Services provided by means of the covered pipeline (or to provide a rebate to Users of the covered pipeline); and

(c) a rebate mechanism for Rebatable Services pursuant to section 8.40 that provides for less than a full rebate of revenues from the Rebatable Services to the Users of the Reference Service.

Section 8.46 states that an Incentive Mechanism should be designed with a view to achieving the following objectives:

(a) to provide the Service Provider with an incentive to increase the volume of sales of all Services, but to avoid providing an artificial incentive to favour the sale of one Service over another;

(b) to provide the Service Provider with an incentive to minimise the overall costs attributable to providing those Services, consistent with the safe and reliable provision of such Services;

(c) to provide the Service Provider with an incentive to develop new Services in response to the needs of the market for Services;

(d) to provide the Service Provider with an incentive to undertake only prudent New Facilities Investment and to incur only prudent Non-Capital Costs, and for this incentive to be taken into account when determining the prudence of New Facilities Investment and Non-Capital Costs for the purposes of sections 8.16 and 8.37; and

(e) to ensure that Users and Prospective Users gain from increased efficiency, innovation and volume of sales (but not necessarily in the Access Arrangement Period during which such increased efficiency, innovation or volume of sales occur).

5.11.2 Access Arrangement Proposal

Chapter 3 and schedules 2 and 3 of the Access Arrangement make provision for changes to Reference Tariffs over the Access Arrangement Period. AlintaGas has proposed that changes may be made to Reference Tariffs in two ways:

i. annual revision of Reference Tariffs and components of Reference Tariffs in accordance with an "average revenue" or "revenue yield" control mechanism; and

ii. pass through of taxes and regulatory changes.

Revenue Yield Mechanism of Tariff Control

AlintaGas has proposed that Reference Tariffs be set for the first year of the Access Arrangement Period and subsequently varied on an annual basis in accordance with a combined price-path and cost-of-service approach. The provisions for tariff variation comprise an "average revenue" or "revenue yield" approach to tariff variation wherein tariffs may be varied subject to a constraint that the forecast average revenue (per gigajoule of gas delivered) for the year in which tariffs will apply (the review year) does not exceed a specified maximum allowed average revenue for that year.

The revenue yield mechanism proposed by AlintaGas allows AlintaGas to vary Reference Tariffs at its discretion subject to two constraints:

i. a limit on changes to Reference Tariffs such that the forecast average revenue for any year does not exceed a maximum allowed average revenue determined in accordance with a "CPI–X" formula, and with adjustment reflecting differences between forecast and realised sales for each Reference Service in previous years; and

ii. a limit on changes to Reference Tariffs such that the change to any particular Reference Tariff component in any year does not exceed the maximum allowed value for that tariff determined in accordance with a "CPI+Y" formula.

These two constraints on variation of Reference Tariffs are discussed in more detail below.

Maximum Allowed Average Revenue

The maximum allowed average revenue constraint on Reference Tariffs requires that for a review year, the forecast average revenue must not exceed the maximum allowed average revenue. The forecast average revenue is calculated as the forecast total revenue from all Reference Services for the review year (given proposed Reference Tariffs) divided by the forecast total gas quantity to be delivered for all Reference Services. That is:

$$FAR_t = \frac{FR_t}{V_t^{forecast}}$$

where FAR_t is the forecast average revenue for the review year (year t) ($/GJ);

FR_t is the forecast revenue for the sale of Reference Services in the review year ($);

$V_t^{forecast}$ is the forecast total quantity of gas to be delivered in the review year (GJ).

The maximum allowed average revenue for the review year is calculated as the average revenue in the current year (weighted to reflect forecast changes in delivered quantity for each service in the review year), inflated by a CPI–X factor and corrected for differences between realised and forecast average revenues in the two years prior to the review year. That is:

$$MAAR_t = \left[RAR_{t-1} \times (CPI_t - X)\right] - K_t$$

where $MAAR_t$ is the maximum allowed average revenue for the review year (year t) ($/GJ);

RAR_t is the re-weighted average revenue ($/GJ);

CPI_t is a consumer price index measure calculated as the Consumer Price Index (All Groups, Perth) published by the Australian Bureau of Statistics for the September quarter of current year (year $t-1$), divided by the same consumer price index measure for the September quarter of the previous year (year $t-2$);

X is a productivity improvement factor set prior to the commencement of the Access Arrangement, and with a proposed value of 0.79 percent;

K_t is a correction to the maximum allowed average revenue to reflect differences in realised revenue from forecast revenue in the two years prior to the review year.

The re-weighted average revenue is calculated as:

$$RAR_{t-1} = \frac{\sum_j (AR_{j,t-1} \times V_{j,t}^{forecast})}{V_t^{forecast}}$$

where $AR_{j,t-1}$ is the average revenue for Reference Service j in the current year (year t-1) ($/GJ);

$V_{j,t}^{forecast}$ is the forecast quantity of gas to be delivered in the review year for Reference Service j.

The correction component of the maximum allowed average revenue (K_t) is included so as to maintain AlintaGas's average revenue on the *CPI–X* price path. If sales of the Reference Services (and hence revenue from these services) in the previous two years (years t–1 and t–2) exceeded forecasts made at the time of setting Reference Tariffs for those years, then the correction would have the effect of reducing the maximum allowed average revenue for the review year and the possible increases in Reference Tariffs for that year. If sales of the Reference Services in the previous two years were less than forecasts, then the correction would have the effect of increasing the maximum allowed average revenue for the review year and the possible increases in Reference Tariffs for that year. The value of K_t is calculated from revised forecasts of sales in the current year (year t–1) and actual sales in the previous year (year t-2).

Maximum Allowed Values of Individual Reference Tariffs

The maximum allowed value constraint on Reference Tariffs limits the increase in any individual component of a Reference Tariff to a maximum of 102 percent of the value of that component in the previous year. That is:

$$MAV_t = TC_{t-1} \times (CPI_t + Y)$$

where MAV_t is the maximum allowed value for the proposed tariff component in the review year (year t);

TC_{t-1} is the value of the tariff component in the current year;

Y has a value of 0.02.

Regulatory Approval of Variations to Reference Tariffs

Part A of Schedule 2 proposes a procedure for assessment by the Regulator of proposed changes to Reference Tariffs. AlintaGas has proposed that a statement of proposed changes to Reference Tariffs and supporting information (a variation proposal) be provided to the Regulator before the commencement of the review year. It is proposed that the Regulator must approve the proposed Reference Tariffs in a variation proposal if:

- the proposed Reference Tariffs and proposed tariff components comply with the principles and formulas set in part B of schedule 2 of the Access Arrangement; and
- all of the forecasts included in the variation proposal are satisfactory to the Regulator.

Furthermore, it is proposed that if the Regulator does not provide notification of approval or non-approval of the proposed Reference Tariffs within 20 days of receiving the variation proposal, then the variation proposal is deemed to have been approved by the Regulator.

The Access Arrangement proposes that if the Regulator does not approve the proposed Reference Tariffs in a variation proposal, and does not approve a subsequently revised

variation proposal, then AlintaGas may seek review of the Regulator's decision as though it was a decision to which section 38 of schedule 1 to the *Gas Pipelines Access (Western Australia) Act 1998* applies.[68]

Pass Through of Taxes and Regulatory Changes

The Access Arrangement provides for Reference Tariffs to be changed as a result of pass through of taxation and regulatory changes, including pass through of variation in taxes, charges, levies, imposts and fees, or costs arising from a change in the regulatory environment.

The provisions for regulatory approval of changes to Reference Tariffs arising from pass through of taxes and regulatory changes are similar to those described above for variations to Reference Tariffs. The Access Arrangement proposes that the Regulator is required to notify AlintaGas of approval or non-approval of changes to Reference Tariffs within 30 days of submission by AlintaGas of the relevant "change statement". If the Regulator does not provide notification of approval or non-approval of the proposed changes to Reference Tariffs within 30 days, then the change statement is deemed to have been approved by the Regulator. AlintaGas may seek review of any decision by the Regulator on a "change statement" as though it was a decision to which section 38 of schedule 1 to the *Gas Pipelines Access (Western Australia) Act 1998* applies.

5.11.3 Submissions from Interested Parties

Regulatory Approval of Changes to Reference Tariffs

- Office of Energy

  The Regulator would be advised to consider whether it is appropriate for AlintaGas to have the ability to vary its Reference Tariffs, subject to the Regulator being advised of the proposed changes. The Office of Energy has concerns that only "advising" the Regulator would mean that there is no independent audit of the annual tariff review. At the least, the Regulator should be provided with detailed accounting information in advance of the review, and if the Regulator disagrees with the calculation of the tariffs then a proper review under the Code should be triggered.

  Decisions to not approve the proposed Reference Tariffs in a variation proposal or the pass through of taxation and regulatory changes, as described in the Access Arrangement, would not in isolation be decisions for which a review by the Review Board is contemplated under the Act including the Code. It is not considered appropriate for AlintaGas's Access Arrangement to attempt to modify the law and create additional "prescribed" decisions subject to the appeals mechanism of the Act.

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[68] Section 38 of schedule 1 to the *Gas Pipelines Access (Western Australia) Act 1998* relates to appeals against a decision:
(a) that a pipeline or proposed pipeline is, or is not, or ceases to be, or does not cease to be, a Code pipeline;
(b) to add to, or to waive, the requirement under the Code that a service provider be a body corporate or statutory authority or not be a producer, purchaser or seller of natural gas or relating to the separation of certain activities of a service provider;
(c) not to approve a contract, arrangement or understanding between a service provider and an associate of a service provider;
(d) relating to any other matter that, under the Code, is a decision to which this section applies.

- Western Power

  Changes in Australia's taxation framework are likely to be a feature of the business environment prevailing over the next few years as Governments strive to restructure taxes to promote growth, improve efficiencies and consequently raise community living standards. In Western Power's view, the economic adjustment process is enhanced by the automatic pass through of increases in taxes and new taxes.

  Regulation is required in imperfect markets to insulate third parties from monopoly pricing practices and to ensure continued access to infrastructure on fair and reasonable terms. Accordingly, Western Power contends that it is appropriate for costs arising from regulatory changes to be passed on to third parties benefiting from the access services.

  Changing circumstances may also dictate that certain taxes be reduced or eliminated and that regulatory changes lead to reduced costs. In these circumstances, consideration of equity, efficiency and symmetry principles dictate that any such decreases should also be automatically passed onto Users.

- Office of Energy

  If the taxation and regulatory changes contemplated in Schedule 3 of the Access Arrangement are identified by AlintaGas to be specific major events that trigger an obligation on AlintaGas to submit revisions prior to the revisions submission date then those revisions should be treated following the procedures prescribed in the Code. The Regulator must request an amendment to Schedule 3 to align the proposal and approval of the revisions described in that Schedule with the processes prescribed by the Code.

Clause 25(2) of the Access Arrangement provides for AlintaGas to change Reference Tariffs in accordance with the proposed revenue yield formula and as necessary for the pass through of changes in taxation and regulation. Clause 1 of schedule 2 and clause 2 of schedule 3 of the Access Arrangement propose:

- the processes by which the Regulator would be advised of the proposed changes to Reference Tariffs;
- conditions under which the Regulator must approve the proposed changes;
- time limits for the Regulator to notify AlintaGas of a decision to approve or not approve proposed changes, before the proposed changes are deemed to have been approved;
- obligations of the Regulator in respect of providing reasons to AlintaGas for not approving a proposal to change Reference Tariffs; and
- provision for AlintaGas to seek review of any decision by the Regulator to not approve a proposal to change tariffs as if the decision was a decision to which section 38 of schedule 1 of the *Gas Pipelines Access (WA) Act 1998* applies.

Schedule 3 of the Access Arrangement outlines the mechanism by which AlintaGas would seek to pass through changes in taxation and regulation. AlintaGas will issue the Regulator a change statement when a relevant change occurs, which specifies, *inter alia*, details of the relevant change, the effect of the relevant change and the period over which AlintaGas proposes to pass through the relevant amount. When the Regulator receives a change statement, the Regulator has thirty business days to make a decision on whether to accept the pass through amount. If the Regulator does not approve the proposed change statement, AlintaGas may seek a review of the Regulator's decision under the *Gas Pipelines Access*

(WA) Act 1998. If a relevant change occurs but AlintaGas chooses not submit a change statement, the Regulator can direct AlintaGas to submit a change statement.[69]

While the Regulator accepts that some certainty with respect to the approval of tariffs is desirable, it is also noted that provisions that remove any flexibility on the part of the Regulator reduce the ability of the Regulator to audit proposed changes to ensure compliance with the Access Arrangement. This would be of particular concern with the proposed revenue yield formula for variation of Reference Tariffs, for which the Regulator would be under some obligation to audit volume forecasts and tariff calculations, and for the pass through of changes in taxation and regulation.

Furthermore, the changes in taxation and regulation contemplated by Schedule 3 are likely to involve complex issues which may require thorough assessment. The Regulator contends that the impact of changes to taxation or regulatory conditions should, in principle, be passed on in an appropriate way to Users. The Regulator considers that consideration of any proposals for pass-through by interested parties, prior to pass through, is an extremely important process. As such, this would preclude the automatic pass through of taxation or regulatory changes, as suggested by Western Power. However, this is not to say that the changes will, after consideration by interested parties, not be passed through in full.

Under the current proposals, the Regulator would be unable to initiate a more detailed or wider review on a particular change statement if such a review were considered necessary since a response is required on the change statement within thirty business days. Consequently, the Regulator does not consider it appropriate for a pass-through mechanism to operate without the opportunity for detailed review by the Regulator and interested parties. The Regulator therefore considers that the proposed requirement for a change statement to be considered within 30 business days is too restrictive and should be removed from Schedule 3 of the Access Arrangement. In addition, the Regulator believes that Schedule 3 should make provision for the Regulator to seek public submissions on any proposed change statement submitted by AlintaGas, where the Regulator believes it is necessary to do so.

For the above reasons, the Regulator considers that tariff variations by means of variation proposals and change statements should be subject to the approval of the Regulator.

The Regulator also considers that it is not acceptable for a Service Provider to impose obligations upon the Regulator within an Access Arrangement. The proposed process for the Regulator to be advised of, and to make a decision on, proposed variations to Reference Tariffs or pass through of changes in taxation or regulation should therefore not impose any such obligations.

The following amendments are required before the Access Arrangement will be approved.

Amendment 40 Clause 1 of schedule 2 and clause 2 of schedule 3 of the Access Arrangement should be amended to make variations to Reference Tariffs and the pass through of changes in taxation and regulation subject to the approval of the Regulator.

[69] As permitted by clause 3 of Schedule 3.

Amendment 41

Clause 1 of schedule 2 and clause 2 of schedule 3 of the Access Arrangement should be amended so as to not impose obligations on the Regulator in respect of decisions by the Regulator to approve or not approve proposed variations to Reference Tariffs or pass through of changes in taxation and regulation, other than as provided for by the Code in respect of a review of an Access Arrangement.

Clauses 1(6) of schedule 2 and 2(4) of schedule 3 of the Access Arrangement state that if the Regulator does not approve a proposed variation to Reference Tariffs or a pass through of taxation and regulatory changes in Reference Tariffs, AlintaGas is able to seek a review of the Regulator's decision, as though it were a decision to which section 38 of Schedule 1 of the *Gas Pipelines Access (WA) Act 1998* applies.

Under section 38(1) of Schedule 1 to the Act, a person's right to apply to the Western Australian Gas Review Board for a review of a decision of the Regulator depends on whether or not the decision is of a type mentioned in section 38(13) of Schedule 1. Section 38(13) of schedule 1 does not make reference to decisions on changes to Reference Tariffs. As a consequence, the proposal by AlintaGas effectively seeks to extend the provisions of the Act by conferring rights to appeal in regard to changes to Reference Tariffs. The Regulator does not consider it appropriate for an Access Arrangement to seek to extend the provisions of the Act by conferring rights to appeal in regard to changes to Reference Tariffs.

The following amendment is required before the Access Arrangement will be approved.

Amendment 42

Clauses 1(6) of schedule 2 and 2(4) of schedule 3 of the Access Arrangement should be amended to remove provisions for AlintaGas to seek a review of a decision by the Regulator to not approve changes to Reference Tariffs as though such a decision was a decision to which section 38 of schedule 1 of the *Gas Pipelines Access (WA) Act 1998* applies.

CPI-X form of Incentive Mechanism

- Office of Energy

  The escalation of the initial Reference Tariffs using the proposed CPI-X methodology may not be appropriate. The Code requires that an Incentive Mechanism should be designed to provide the operator with an incentive to minimise the overall costs and an incentive to undertake only prudent New Facilities Investment and to incur only prudent Non-Capital Costs.

  Therefore, it should be considered whether or not the incentive mechanism should apply to the Initial Capital Base, given the associated costs cannot be "minimised", or it should only apply to non-capital costs and costs associated with New Facilities Investment. The Regulator would also need to be satisfied as to whether the CPI-X incentive mechanism should be applied to the New Facilities Investment cost. This would need to be determined in the perspective of future capital expenditure having been already incorporated into the tariff structure.

In general, a CPI–X form of incentive mechanism provides incentives for productivity improvement and cost reductions through limiting the escalation in tariffs and hence limiting the revenue from distribution services. A positive value of X reflects projected efficiency gains and a real reduction in total costs of service provision, but does not "target" the cost

reductions to particular aspects of the distribution business. The Service Provider may accomplish the cost reductions through efficiency gains in operating activities, or through efficiency gains in construction of new assets and associated reduction in subsequent capital costs.

The X factor for the AlintaGas distribution systems reflects forecasts of Capital and Non-Capital Costs over the Access Arrangement Period and projected efficiency gains that underlie these costs. By virtue of the manner in which AlintaGas has calculated a value for the X factor, this value does not impose any requirements for efficiency gains on AlintaGas other than have already been incorporated into the cost forecasts used in the determination of Total Revenue and Reference Tariffs.

The efficiency and prudency of New Facilities Investment is not addressed specifically by the incentive mechanism, although efficiencies in Capital Expenditure may contribute to reductions in total real costs of service provision and the CPI–X incentive mechanism would serve to motivate such efficiencies. Efficiency and prudency of New Facilities Investment is also addressed in relation to rolling-in of capital expenditure into the Capital Base, and compliance with the associated requirements of section 8.16(b) of the Code. The Regulator assessed proposed Capital Expenditure against these requirements, as described in section 5.4 of this Draft Decision.

- CMS Submission No 3

  The proposed AlintaGas Access Arrangement effectively constitutes a cost plus pricing scheme. The provisions which limit the magnitude of future variations in Reference Tariffs incorporate an adjustment factor whose magnitude (positive or negative) depends on the difference between projected and actual revenues. Thus the proposed AlintaGas pricing is a CPI–X scheme with under- and over-recovery adjustment. This is effectively equivalent to cost plus. Under a cost plus regime, the only direct incentive to a Service Provider is to increase costs.

A "cost plus" pricing scheme provides for Reference Tariffs to be adjusted from original levels, based on anticipated costs of providing the Reference Service, in response to realised cost outcomes. AlintaGas's proposed provisions for variation of Reference Tariffs and the associated "correction" factors do not function in the manner of a cost plus pricing scheme. The correction factors relate to differences in forecast and realised revenue. No correction is made for differences in forecast and realised costs.

Value of the X Factor

- Western Power

  AlintaGas has elected to apply the revenue yield method of indexing Reference Tariffs. Under this approach, tariffs are indexed annually by CPI-X, where X is the specified productivity improvement factor. Setting the value of X as 0.0079 suggests that AlintaGas is operating at best practice levels. It also suggests that there is limited scope to extract productivity gains over the Access Arrangement Period. In Western Power's view, an assessment along these lines, and hence an acceptance of an X factor value of 0.0079, deserves close scrutiny by *Off*GAR.

- North West Shelf Gas Pty Ltd

  We note and approve of AlintaGas's proposed arrangement whereby average tariff levels will be constrained to reduce in real terms (the CPI-X constraint) over the term of the proposed Access Arrangement. We believe that such a mechanism will promote efficiency and help lead to lower delivered prices for customers. We would encourage *Off*GAR to consider whether the 0.79% target for X is sufficient

and suggest that a higher value would provide a greater incentive for the onshore transmission pipeline or distribution network operator to reduce costs and increase volumes.

AlintaGas's proposed value of the X factor in the CPI-X constraint on variation of Reference Tariffs is discussed in detail below under "Additional Considerations of the Regulator". AlintaGas has incorporated envisaged productivity gains into forecasts of Non-Capital Costs and Capital Expenditure. The X factor of 0.0079 reflects these envisaged productivity gains. In assessing the value of the X factor, the Regulator noted that the methodology used by AlintaGas to calculate the value was incorrect, and also took into account greater productivity gains and savings in Non-Capital Costs than were assumed by AlintaGas. The Regulator re-calculated the value of the X factor as 2.62 percent.

Re-balancing of Reference Tariffs

- Office of Energy

No information has been provided to justify the need for CPI+2% annual increase in any Reference Tariff component. Allowing the distribution Reference Tariff B3 to annually grow at CPI+2% has the potential to severely reduce retail margins in the residential segment of the market and to make the expectation that average increases will be limited to CPI unrealistic. It also has the potential to make the residential market unattractive to third party retailers and remove the possibility for effective competition in the market.

The Office of Energy considers that in addition to requesting information on the basis for the necessity for CPI+2% increases in individual tariff components, the Regulator must assess those possible increases when taking into account the public interest as required under section 2.24 of the Code, including the public interest referred to in section 38 of the Act.

AlintaGas's proposed revenue yield form of price control is discussed in detail below under "Additional Considerations of the Regulator". The Regulator has addressed the incentives that AlintaGas may face under the revenue yield form of price control to strategically alter tariffs so as to restrict competition in the retail market for gas. To negate these incentives, the Regulator is requiring amendment of the Access Arrangement to remove provision for re-balancing of tariffs, and to implement a price cap form of price control.

Application of Correction Factors in the Revenue Yield Formula

- CMS Submission No 3

AlintaGas proposes in Part B of Schedule 2 of the Access Arrangement that it may, at its discretion, adopt any proposed Reference Tariff and any proposed tariff component, subject to its Forecast Average Revenue (FAR) not exceeding its Maximum Allowed Average Revenue (MAAR) and each proposed tariff component not exceeding the initial Reference Tariffs escalated by CPI plus 2 percent. However, Schedule 2 does not appear to state that AlintaGas can vary its forecast revenue (FR) for the next review year by an under/over recovery of revenue from the preceding years due to differences in forecast and estimated/actual gas volumes. This appears to constitute an inconsistency, as the process as proposed would require original rather than adjusted revenue forecasts to be used.

The revenue yield form of price control outlined by AlintaGas in part B of schedule 2 of the Access Arrangement allows for variation of Reference Tariffs subject to a constraint that the forecast average revenue with the revised tariffs does not exceed a maximum allowed average revenue. The maximum allowed average revenue is determined from the proposed Reference Tariffs and a forecast of the quantities of gas to be distributed under each Reference Service. In practice, the maximum allowed average revenue corresponds to a notional target revenue that is equal to the volume that will actually be sold in the forthcoming year multiplied by the maximum allowed average revenue.

By virtue of uncertainties in making forecasts of quantities of gas to be distributed for different services, the realised quantities will probably differ from the forecasts, and hence the actual revenue will differ from the target revenue. The correction factors provide for actual revenues to be corrected for under- or over-recoveries of revenue, relative to the target revenue, by adjusting tariffs and hence revenues in future periods. In this way, AlintaGas maintains revenues at its pre-determined target revenue path over the longer term while divergences between target and average revenue may occur in any individual year. These adjustments are provided for in schedule 2 of the Access Arrangement by means of the correction factors.

- CMS Submission No 3

  CMS recommend that adjustments be made to the formulae of the correction factors in clauses 11 and 12 of part B of schedule 2 of the Access Arrangement. These adjustments comprise an alteration of the correction factors such that they correct for differences realised revenue outcomes for any particular year and forecast total revenues for that year when Reference Tariffs were set. If the formulae are not amended as suggested then it would appear that AlintaGas would be able to unreasonably increase its revenue. This is because the correction factor (K_t) would be negative unless actual volumes are sufficiently higher than forecast volumes to outweigh the multiplication effect of the maximum allowed average revenue (MAAR).

As indicated above, the revenue yield form of price control proposed by AlintaGas involves setting a notional target revenue for a year when Reference Tariffs are set for that year. The notional target revenue is equal to the volume that will actually be sold in the forthcoming year (which is unknown but for which a forecast is made) multiplied by the maximum allowed average revenue. The correction factors effectively correct the revenue stream for any discrepancy between target and realised revenue arising from the difference between the maximum allowed average revenue and the realised average revenue and not for differences between the forecast and realised volumes of gas distribution.

The adjustments suggested by CMS would have the result of setting a revenue cap for the Service Provider at a level equal to the forecast average revenue multiplied by the forecast volume. A revenue cap would remove any incentive for the Service Provider to sell a higher quantity of gas distribution than forecast for the year. This is considered to be contrary to the intent of an incentive mechanism.

- CMS Submission No 3

  The Swap Reference Rate is an interest rate agreed by a bank for loans and/or investments. Usually the rate will depend upon the risk associated with a company. In the case of AlintaGas, because it is a government trading enterprise and therefore the risk of default is very low, then its interest rate will be set usually marginally above the bank bill rate. Even if AlintaGas is privatised, it is unacceptable to require 50 basis points as a spread to correct a revenue shortfall or deficit. A more realistic spread would be 20 basis points.

In applying correction factors, AlintaGas has proposed a scaling-up of the revenue corrections by a factor of one plus the "Australian Financial Markets Association End of Day 1 Swap Reference Rate at 30 September" varied by subtraction of 50 basis points when K_t is a negative value (i.e. there has been an under-recovery of revenue) or by addition of 50 basis points when K_t is a positive value (i.e. there has been an over-recovery of revenue). The 50 basis point adjustments to the Swap Reference Rate have the effect of allowing a greater correction to the maximum allowed average revenue (and hence to AlintaGas's revenue) if the correction is recovering a revenue shortfall rather than if the correction is returning a revenue surplus. The justification for this differential treatment of shortfalls and surplus would probably be to compensate AlintaGas for the cost of making the corrections.

CMS have argued that the adjustment of the swap reference rate should be +/– 20 basis points rather than the +/– 50 basis points proposed by AlintaGas. The Regulator acknowledges that these adjustments, at whatever rate, will impose a cost on Users. The magnitude and reasonableness of this cost has not, however, been assessed as part of this Draft Decision in view of the Regulator's decision to require amendment of the Access Arrangement to remove the revenue yield mechanism for tariff variation (as discussed in the following section).

5.11.4 Additional Considerations of the Regulator

Other than matters raised in public submissions, the Regulator identified two additional matters of concern in the provisions of the Access Arrangement relating to changes in Reference Tariffs over the Access Arrangement Period:

i. inappropriate incentives in the revenue-yield methodology for variations in Reference Tariffs; and

ii. AlintaGas's determination of the X factor used in the CPI–X annual adjustments to maximum allowed average revenue.

These matters are discussed in turn below.

Revenue-Yield Form of Price Control

The revenue yield from of price control would allow AlintaGas to raise tariffs over the Access Arrangement Period subject to the CPI–X constraint on average revenue, and to "re-balance tariffs (i.e. to alter cost allocations across References Services) subject to a CPI+Y constraint that limits the extent that any one tariff may change in a given year.

Consideration of alternative forms of price control raises extremely complex issues, as many of the arguments for and against the various alternative forms of price control are concerned with the micro-incentives that the price controls create for the Service Provider. In principle, the Regulator agrees that it is desirable for AlintaGas to have the ability to re-balance Reference Tariffs during the Access Arrangement Period. Furthermore, it is acknowledged that the revenue yield form of price control proposed by AlintaGas creates many of the incentive properties that are described in the Access Arrangement Information, for example the incentive to minimise costs. However, it is noted that there are also several well documented problems with this particular form of price control. The Regulator has two principal concerns as to the implications of this form of price control for efficiency incentives for AlintaGas and for competition in the retail gas market. These concerns are outlined below.

Firstly, a problem of the revenue yield form of price control is that for any additional unit of gas throughput sold, the Service Provider is allowed to increase the revenue for the year by an amount equal to the forecast average revenue, regardless of the price at which the unit of gas throughput is actually sold. Thus the marginal revenue from any additional unit of a service sold is equal to the average revenue per unit of gas throughput from all services, and the marginal revenue is unrelated to the charge levied on the customer or the marginal cost of providing the service. This provides the Service Provider with an incentive to reduce prices for some segments of the market below economically efficient levels (i.e. below the long run avoidable cost of providing the services) in order to increase overall throughput (as more throughput increases revenue and profit). The revenue yield form of control thus motivates

inefficient pricing resulting in the tariffs for particular services, or components of tariffs, not reflecting the costs associated with provision of the service or particular components of services.

Incentives for inefficient pricing also arise in the specific case where the distribution and retail businesses are under common ownership. In the situation such as currently exists for AlintaGas, where parts of the retail gas market are not contestable by other gas traders, the Service Provider faces an incentive to raise gas distribution tariffs for services in contestable sections of the market, and reduce gas distribution tariffs in the non-contestable sections of the market, regardless of the relative costs of providing the particular services. Even should all retail gas markets be contestable, the Service Provider would face incentives to raise distribution tariffs for some distribution services while the retail business may price below marginal cost as any loss that it bears will be more than offset by additional profits to the distribution business. Such strategic pricing of distribution services may impede the introduction and maintenance of competition into the retail gas market.

Secondly, a revenue yield form of price control is complex and potentially expensive to regulate and administer. Complexity arises from the use of quantity forecasts for setting tariffs and inclusion of correction factors in the price control formula for subsequent correction of differences between forecasts and realised outcomes. Substantial costs are likely to be incurred by the Regulator in verifying whether quantity forecasts are reasonable and in auditing corrections. The regulatory complexity is compounded by incentives for the Service Provider to misrepresent quantity forecasts and the consequent requirement for the Regulator to rigorously scrutinise the forecasts. Since the average revenue is a weighted average of quantity forecasts for several services, there is a strong incentive for the Service Provider to strategically over- or under–estimate forecasts for particular services to raise the maximum allowed average revenue.

These problems with the revenue yield form of price control have been described in detail by the Victorian Office of the Regulator-General in the context of its review of electricity distribution prices.[70] In view of the problems with the revenue yield approach, the Victorian Office of the Regulator General has indicated an intent to replace the current revenue yield controls that are in place for electricity distributors with an alternative regulatory mechanism – the "tariff basket" form of price control. This alternative form of price control is generally noted to be superior on grounds of economic efficiency and administrative cost while having no relative disadvantages to the revenue yield form of control.[71]

For AlintaGas, the Regulator considers that revenue yield form of price control has insufficient merits to compensate for the concomitant incentives for inefficient pricing of certain services and the potentially high administrative complexity and regulatory costs. While an alternative form of price control such as the "tariff basket" control would negate some of the problems of the revenue yield approach, including both some of the complexity and incentive problems, problems would remain as a result of AlintaGas having common ownership of both distribution and retail businesses.

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[70] Office of the Regulator General, Victoria, December 1999. Consultation Paper No. 5, Tariff Basket Form of Price Control: Detailed Proposal.

[71] Bradley, I. and Price, C., 1988. The economic regulation of private industries by price constraints, *Journal of Industrial Economics* 37(1): 99–106.

The Regulator is concerned by the capacity for AlintaGas, under any tariff re-balancing mechanism, to raise tariffs for particular distribution services for the purposes of restricting competition in particular sections of the retail gas market. This is of particular concern during the period in which the retail markets for gas supply to residential and small business customers remain non-contestable, and subsequently where maximum retail gas tariffs for these customers remain regulated. In the first instance, AlintaGas would face a strong incentive to raise distribution tariffs in contestable sections of the market while lowering tariffs in the non-contestable residential and small-business sections of the market. Subsequent to the advent of contestability in all sections of the retail gas market, but with ongoing regulation of retail gas tariffs, AlintaGas would face incentives to raise tariffs for the B2 and B3 services and thereby reduce potential retail margins to levels that would restrict potential retail competition. While the "CPI+Y" constraint on the re-balancing of tariffs would limit the extent to which AlintaGas could strategically alter tariffs to restrict competition, there would still be substantial scope for doing so over the five years of the Access Arrangement Period.

The Regulator has thus concluded that the provisions for tariff re-balancing should be removed from the Access Arrangement and that a "price cap" form of price control be implemented. Under the price cap form of control, tariff variation would be restricted according to the following formula:[72]

$$TC_{ij}^{t} = \left(1 + \frac{CPI^{t-1}}{100}\right) \times (1 - X) \times TC_{ij}^{t-1}$$

where TC_{ij}^{t} is the maximum allowed value of tariff component i in Reference Tariff j in the review year (year t);

TC_{ij}^{t-1} is the value of tariff component i in Reference Tariff j in the current year (year $t-1$);

CPI^{t-1} is the annual percentage change in the Australian Bureau of Statistics All Groups Consumer Price Index – Average of the Eight State Capitals from September in the previous year (year $t-2$) to September in the current year (year $t-1$);

X is the productivity improvement factor set prior to the commencement of the Access Arrangement.

The price cap form of price control does not negate the possibility for AlintaGas to re-balance Reference Tariffs over the Access Arrangement Period, but would require any such re-balancing to be undertaken as a revision of the Access Arrangement in accordance with relevant provisions of part 2 of the Code. In view of the potential implications of tariff re-balancing for competition in the retail gas market, the Regulator considers that the public scrutiny provided for in a revision of the Access Arrangement is appropriate for any re-balancing of Reference Tariffs.

The following amendment is required before the Access Arrangement will be approved.

[72] ACCC, 1999. Draft Statement of Principles for the Regulation of Transmission Revenues.

Amendment 43

Schedule 2 of the Access Arrangement should be amended to remove provisions for re-balancing of Reference Tariffs and to implement a price-cap mechanism for the variation of Reference Tariffs.

Determination of the X Factor

The methodology that AlintaGas has used to determine the value of the X factor in the CPI–X revenue adjustment factor is described in chapter 3 clause 25 of the Access Arrangement. In brief, this methodology is as follows.

- The present value of Total Revenue over the Access Arrangement Period is calculated.
- An average price for the distribution systems in the year 2000 (in $/GJ) is calculated by dividing the Total Revenue for that year by forecast throughput for the year to derive an average price ($/GJ) for the system in that year.
- The average price is then escalated annually by CPI–X (X at this stage is unknown) to derive average prices for years 2001 to 2004.
- An expected revenue for each of the years 2001 to 2004 is calculated as the product of the forecast throughput and average price for that year.
- A value of X is determined so that the present value of expected revenue (as defined above) is equal to the present value of Total Revenue. The value of X thus determined by AlintaGas was 0.0079.

This calculation is summarised as follows.

AlintaGas X factor calculation

	2000	**2001**	**2002**	**2003**	**2004**
Total Revenue derived by "cost of service" methodology (nominal $million)	101.1	103.4	106.4	109.4	112.2
Present value of Total Revenue (nominal $million; discount rate of 10.7 percent)	**394.4**				
Forecast throughput (TJ)	27,825	27,784	28,077	28,723	29,208
Year 2000 average distribution price ($/GJ)	3.63				
Escalated average prices at CPI–X (CPI = 2.5 percent, X = 0.79 percent)	3.63	3.70	3.76	3.82	3.89
Expected revenue (nominal $million)	101.1	102.7	105.6	109.8	113.6
Present value of expected revenue ($million; discount rate of 10.7 percent)	**394.4**				

An implicit assumption in the AlintaGas calculation of the X factor is that the mix of throughput remains constant over the period. If some parts of the market grow more quickly than others, and those different parts of the market pay different average tariffs, then the system wide average tariff will not remain constant over the period. This is the case for AlintaGas. Section 6.4 of the Access Arrangement Information indicates that the most quickly growing components of the market are Reference Services B2 and B3, for which tariffs are much greater than the system wide average. Accordingly, it would be expected that the system wide average tariff would increase over the period, and that AlintaGas's methodology would lead to a systematic upwards bias of total revenue. Indeed, escalating proposed average tariffs for individual Reference Services by CPI minus 0.79 percent, all other things constant, would give rise to a present value of expected revenue of $406.0 million rather than $394.4 million.

The Regulator has re-calculated the X factor using a methodology that corrects for this bias. This methodology is as follows.

- The present value of Total Revenue over the Access Arrangement Period is calculated (as with the AlintaGas methodology).

- The average tariff for each of the Reference Services for the year 2000 are taken to be the average revenues for each Reference Service indicated in clause 9 of schedule 2 of the Access Arrangement, and these average tariffs are assumed to escalate by CPI-X (X at this stage is unknown) to derive average prices for 2001 to 2004.

- The average price for each Reference Service is escalated annually by CPI–X (X at this stage is unknown) to derive average prices for years 2001 to 2004.

- An expected revenue for each Reference Service for the years 2000 to 2004 is calculated by multiplying the average price for each service by the forecast throughput for each service as indicated in section 6.4 of the Access Arrangement Information.

- A value of X is determined so that the present value of expected revenue over the period is equal to the present value of Total Revenue. The value of X thus determined is 2.35 percent (cf. 0.79 percent as proposed by AlintaGas).

This calculation is summarised as follows.

Corrected AlintaGas X factor calculation

	2000	2001	2002	2003	2004
Total Revenue derived by "cost of service" methodology (nominal $million)	101.1	103.4	106.4	109.4	112.2
Present value of Total Revenue (nominal $million; discount rate of 10.7 percent)	**394.4**				
Forecast throughput (TJ)					
Reference Service A	15,383	15,120	15,113	15,382	15,532
Reference Service B1	3,686	3,637	3,650	3,729	3,780
Reference Service B2	891	893	906	934	956
Reference Service B3	7,864	8,134	8,409	8,678	8,940
Year 2000 average distribution price ($/GJ)					
Reference Service A	0.54				
Reference Service B1	4.40				
Reference Service B2	5.98				
Reference Service B3	9.06				
Escalated average prices at CPI–X (CPI = 2.5 percent, X = 2.35 percent)					
Reference Service A	0.54	0.54	0.54	0.54	0.55
Reference Service B1	4.40	4.41	4.41	4.42	4.43
Reference Service B2	5.98	5.99	6.00	6.01	6.02
Reference Service B3	9.06	9.07	9.09	9.10	9.12
Expected revenue (nominal $million)	101.1	103.4	106.2	109.4	112.4
Present value of expected revenue ($million; discount rate of 10.7 percent)	**394.4**				

The value calculated for X depends upon the Total Revenues for each year calculated by the cost of service methodology, the allocation of Total Revenue across Reference Services, and the average prices for each Reference Service in 2000. As indicated in sections 5.8 and 5.9 of this Draft Decision, the Regulator requires amendments to the Total Revenue that affect the average prices in 2000. The value of the X factor calculated on the basis of the adjusted Total Revenue and average prices is 2.62 percent. Calculation of this value is summarised as follows.

Revised X factor calculation

	2000	2001	2002	2003	2004
Total Revenue derived by "cost of service" methodology (nominal $million)	95.2	96.9	99.3	102.3	105.1
Present value of Total Revenue (nominal $million; discount rate of 10.6 percent*)	**389.7**				
Forecast throughput (TJ)					
Reference Service A	15,383	15,120	15,113	15,382	15,532
Reference Service B1	3,686	3,637	3,650	3,729	3,780
Reference Service B2	891	893	906	934	956
Reference Service B3	7,864	8,134	8,409	8,678	8,940
Year 2000 average distribution price ($/GJ)					
Reference Service A	0.51				
Reference Service B1	4.13				
Reference Service B2	5.63				
Reference Service B3	8.54				
Escalated average prices at CPI–X (CPI = 2.5 percent, X = 2.62 percent)					
Reference Service A	0.50	0.51	0.51	0.51	0.51
Reference Service B1	4.09	4.12	4.11	4.11	4.10
Reference Service B2	5.59	5.62	5.61	5.60	5.59
Reference Service B3	8.47	8.53	8.51	8.50	8.49
Expected revenue (nominal $million)	94.5	97.1	99.4	102.3	105.1
Present value of expected revenue ($million; discount rate of 10.6 percent*)	**389.7**				

* While the nominal rate of return determined by the Regulator was 11.2 percent, a discount rate of 10.6 percent has been used here to reflect the 2.5 percent rate of inflation that was assumed by AlintaGas.

An X factor of 2.62 appears, on face value, to be relatively high in comparison with other Access Arrangements and regulatory decisions for gas distribution systems for which X factors in the range of 1.0 percent to 2.4 percent have been adopted.[73] However, the X factors are not necessarily comparable due to different methodologies for determination. The calculation methodology used by AlintaGas means that the X factor reflects efficiency gains and falling unit costs that are already incorporated into cost forecasts. The X factor therefore does not impose any requirements for efficiency gains on AlintaGas other than have already been incorporated into the cost forecasts used in the determination of Total Revenue and Reference Tariffs. A similar methodology was used in calculation of an X factor for the Albury Gas Company which gave a comparable result of X equal to 2.4 percent. In contrast, IPART determined an X factor for the AGL distribution network that was based on potential market growth and unit cost reductions over and above the efficiency gains incorporated into cost forecasts. The CPI–X constraint on tariff variation for AlintaGas is comparatively lenient as an incentive mechanism as it does not seek to impose any incentive for efficiency

[73] For example, IPART adopted X factors for the Albury Gas Company of 2.4 percent in 2000 decreasing to 1.7 percent in 2002 (Final Decision, December 1999), and 1.0 percent for the AGL distribution network (Draft Decision October 1999).

gains on AlintaGas other than those already contemplated and incorporated into cost forecasts. Prior to issue of a Final Decision on the AlintaGas Access Arrangement, the Regulator will consider whether an additional incentive for efficiency gains is warranted.

The following Amendment is required before the Access Arrangement will be approved.

Amendment 44
Clause 15 of schedule 2 of the Access Arrangement should be amended such that the "X" value in a CPI–X price cap mechanism is not less than 2.62 percent.

It is noted that AlintaGas has proposed using the All-Groups CPI measure for Perth to escalate Reference Tariffs. The general regulatory approach in Australia to allow for inflation is to use a measure of economy-wide inflation, such as the Eight Capital City, All-Groups CPI measure as published by the Australian Bureau of Statistics.[74] Furthermore, the CPI measure used for inflation adjustment of tariffs should exclude effects of the goods and services tax. The Regulator supports this approach.

The following amendment is required before the Access Arrangement will be approved.

Amendment 45
Clause 14 of schedule 2 of the Access Arrangement should be amended such that the Consumer Price Index (CPI) refers to the Eight Capital City, All-Groups CPI measure, exclusive of the impact of the goods and services tax, as published by the Australian Bureau of Statistics.

5.12 FIXED PRINCIPLES

5.12.1 Access Code Requirements

Section 8.47 of the Code states that a Reference Tariff Policy may provide that certain elements of the Reference Tariff Policy (Fixed Principles) are fixed for a specified period and not subject to change when a Service Provider submits reviews to an Access Arrangement without the agreement of the Service Provider. The period during which the Fixed Principle may not be changed is the Fixed Period.

Section 8.48 of the Code states that a Fixed Principle may include any Structural Element, but in assessing whether any Structural Element may be a Fixed Principle regard must be had to the interests of the Service Provider and the interests of Users and Prospective Users. A Market Variable Element can not be a Fixed Principle. The Fixed Period may be for all or part of the duration of an Access Arrangement, but in determining a Fixed Period regard must be had to the interests of the Service Provider and the interests of Users and Prospective Users.

[74] ACCC, 1999. Draft Statement of Principles for the Regulation of Transmission Revenues.

5.12.2 Access Arrangement Proposal

In clause 38 of the Access Arrangement, AlintaGas propose that the following principles are Fixed Principles for a Fixed Period of 10 years:

- the structure of Reference Tariffs as specified in clauses 21, 22, 23 and 24 of the Access Arrangement;
- the method of calculation of the Total Revenue as described in clause 27 of the Access Arrangement;
- the method of forecasting new facilities investment under clause 29 of the Access Arrangement;
- the financing structure that has been assumed for the purposes of determining the rate of return in accordance with section 8.30 of the Code;
- the Depreciation Schedule, referred to in clause 31 of the Access Arrangement;
- the allocation of revenue between services as described in clause 33 of the Access Arrangement; and
- the form of regulation as described in clause 35 of the Access Arrangement.

5.12.3 Submissions from Interested Parties

Nature of Fixed Principles

- CMS Submission No 3

  The financing structure that has been assumed for the purposes of determining the rate of return is defined as a fixed principle. Financing structure is used to calculate the Weighted Average Cost of Capital (WACC). WACC varies depending on changes in interest and tax rates, and market returns. This item should not be fixed as it is a market variable element as defined by the Code Section 8.48.

- Western Power

  Western Power is concerned that a number of items in Clause 38 of the proposed Access Arrangement, claimed as fixed principles are not consistent with the National Code.

Section 8.48 of the Code states that a Fixed Principle may include any Structural Element. Section 10.8 of the Code defines a Structural Element as any principle or methodology that is used in the calculation of a Reference Tariff where that principle or methodology is not a Market Variable Element and has been structured for Reference Tariff making purposes over a longer period than a single Access Arrangement Period. A Structural Element includes the Depreciation Schedule, the financing structure that is assumed for the purposes of section 8.30 of the Code and that part of the rate of return that exceeds the return that could be earned on an asset that does not bear any market risk.

Section 10.8 of the Code defines a Market Variable Element as a factor that has a value assumed in the calculation of a Reference Tariff, where the value of that factor will vary with changing market conditions during the Access Arrangement Period or in future Access Arrangement Periods. A Market Variable Element includes the sales or forecast sales of

services, any index used to estimate the general price level, real interest rates, Non-Capital Costs and any costs in the nature of capital costs.

The Fixed Principles proposed by AlintaGas are generally consistent with the nature of Structural Elements allowed as Fixed Principles by section 8.48 of the Code. However, for two of the proposed fixed principles – the Depreciation Schedule and the allocation of revenue between services – it is not clear whether the proposed Fixed Principle comprises a principle or a methodology within the meaning indicated in the definition of a structural element in section 10.8 of the Code. This should be clarified.

The following amendment is required before the Access Arrangement will be approved.

Amendment 46 Clauses 38(1)(e) and 38(1)(f) of the Access Arrangement should be amended to indicate whether the Fixed Principles of the Depreciation Schedule and the allocation of revenue between services comprise principles or methodologies within the meaning indicated in the definition of a structural element in section 10.8 of the Code.

Duration of the Fixed Period

- CMS Submission No 3

  The proposed fixed period is inconsistent with the Access Arrangement Period of five years.

- Apache Energy Limited

  Perhaps its an oversight, but the fixed period, as we understand it, cannot be longer than the duration of the Access Arrangement.

- Office of Energy

  The Office of Energy considers that maintaining some of the principles listed in section 38 of the Access Arrangement fixed for a period of 10 years may not be in the interest of Users and Prospective Users.

Section 8.48 of the Code indicates that the Fixed Period may be for all or part of the duration of an Access Arrangement, but does not explicitly preclude a Fixed Period of longer than the Access Arrangement Period. Section 8.48 of the Code also states that in determining a Fixed Period regard must be had to the interests of the Service Provider and the interests of Users and Prospective Users.

The Regulator acknowledges that it may be desirable for certain underlying parameters of the Reference Tariffs to be exempt from variation by regulatory decisions over an extended period as this may reduce financing costs and so reduce long-term charges to customers. However, there are risks to locking in aspects of the regulatory regime where there is currently little regulatory experience and both the gas industry and market are subject to substantial change within the foreseeable future. In particular, the effects of the current regulatory regime on competition in gas markets are uncertain. In view of these uncertainties, a Fixed Period in excess of the Access Arrangement Period is considered to be potentially contrary to the interests of Users and Prospective Users.

The following amendment is required before the Access Arrangement will be approved.

Amendment 47 Clause 38(2) of the Access Arrangement should be amended to provide for a Fixed Period of no greater than five years starting on the Commencement Date.

5.12.4 Additional Considerations of the Regulator

The Regulator had no concerns with the proposed Fixed Principles in addition to matters addressed in relation to public submissions.

6 TARIFFS FOR LISTED ANCILLARY SERVICES

In addition to specifying Reference Tariffs, the Access Arrangement indicates tariffs for four ancillary services that may be required by a User of Reference Services B2 and/or B3 but which are not included in the definitions of these Reference Services:

- disconnection service;
- reconnection service;
- additional meter reading; and
- additional meter testing service.

The ancillary services are defined in clauses 12 to 15 of the Access Arrangement.

Clause 39 of the Access Arrangement provides for the tariffs for listed ancillary services to be as set out in schedule 8 of the Access Arrangement, as amended or substituted from time to time by AlintaGas and approved by the Regulator.

The Code does not address the levying of charges by a Service Provider on Users or Prospective Users other than through Reference Tariffs. Sections 3.1 to 3.20 of the Code, that outline the required scope of an Access Arrangement, do not explicitly require fees and charges to be specified. However, to the extent that charges comprise part of the Access Arrangement, the Regulator has broad discretion to refuse to accept the Access Arrangement if the charges are regarded as not reasonable. In considering the charges, the Regulator took into account the factors listed in section 2.24 of the Code:

(a) the Service Provider's legitimate business interests and investment in the covered pipeline;

(b) firm and binding contractual obligations of the Service Provider or other persons (or both) already using the covered pipeline;

(c) the operational and technical requirements necessary for the safe and reliable operation of the covered pipeline;

(d) the economically efficient operation of the covered pipeline;

(e) the public interest, including the public interest in having competition in markets (whether or not in Australia);

(f) the interests of Users and Prospective Users; and

(g) any other matters that the Relevant Regulator considers are relevant.

The Regulator considers that the proposed tariffs for ancillary services are likely to reflect the reasonable costs of AlintaGas in providing the services. As such, the tariffs are considered to be consistent with the legitimate business interests of AlintaGas and are therefore deemed to be acceptable.

7 OTHER ISSUES RAISED IN PUBLIC SUBMISSIONS

The Regulator has responded to most matters raised in public submissions in the sections of the Draft Decision that relate to the specific matters raised. There were, however, several matters raised in public submissions that did not relate specifically to matters addressed in the Access Arrangement. Responses by the Regulator on these matters are provided below.

7.1 RING FENCING

- Apache Energy Limited

  Because of the lack of ring fencing of the Gas Trading and Gas Distribution functions within AlintaGas, it is not possible to determine whether the existing distribution tariffs and the tariffs advanced under the Access Arrangement are or will be those used by Gas Trading. Further, until ring fencing of Gas Trading occurs there is no obligation on Gas Trading to specifically and separately account for distribution charges in its costs, thus allowing the opportunity for significant cross subsidies and predatory pricing to occur.

Section 94 of the *Gas Pipelines Access (Western Australia) Act 1998* exempts AlintaGas (the Gas Corporation) from section 4 of the Code, which would otherwise require the ring fencing of the gas distribution system. AlintaGas will, however, become subject to the ring fencing requirements of the Code on 1 July 2002 or on the date at which the Minister considers the disposal of the Gas Corporation to be substantially complete, whichever is earlier. Once AlintaGas becomes subject to the ring fencing provisions of the Code, contractual arrangements between the distribution and trading businesses of AlintaGas for gas distribution in the AlintaGas network will comprise Associate Contracts within the meaning of part 7 of the Code. The Regulator's approval of an Associate Contract is required before such a contract comes into effect.

Prior to the ring fencing of AlintaGas's distribution business, the Regulator has no direct influence over the pricing arrangements between the distribution and trading businesses of AlintaGas. Nevertheless, while AlintaGas remains a statutory corporation, it is accountable to the Minister for Energy in respect of pricing practices.

7.2 GAS SAFETY

Gas Safety

- Combustion Air Pty Ltd

  The Australian Competition and Consumer Commission (ACCC) recognised the primacy of gas safety in it's submission to the Gas Reform Implementation Group dated August 27, 1998 titled "Issues Affecting Competition Between Retailers". Under the heading "3.3 Legislation" the ACCC submits:

  It may be more appropriate for standards to be set out in legislation where certainty is more important than flexibility, where the matter is of enough importance to require imposing minimum or set standards, and where the availability of enforcement for breaches of the standards is important. In many jurisdictions, for example, legislative standards are set for safety matters, as safety represents a basic consumer right, with very high costs to the community for non-compliance.

  It should be noted that the ACCC submission to the Gas Reform Implementation Group was provided in the month prior to the Esso Longford Gas Plant Explosion and Fire of September 25, 1998. In his Report of June 1999, Sir Daryl Dawson makes reference to legislation and the regulatory environment at Longford, up

stream (off shore) and down stream (gas supply and utilisation). The Royal Commission Report at Chapter 14 "The Regulatory Environment" and Chapter 15 "Conclusions and Recommendations" are relevant to gas safety legislation, certainty in regulation and gas access arrangements.

Whilst the ACCC submission to the Gas Reform Implementation Group of August 1998 suggested that it (the ACCC) did not recommend the legislative approach over the general obligations of a consumer charter, with the gas supplier having a general duty of care; the Dawson Report is most specific in regard to the importance of external, mandatory obligations in regard to safety and gas supply.

The Gas Reform Implementation Group information paper "Retail Competition in the Natural Gas Industry: Issues and Approaches" of February 1999 recognised that :

Gas retail competition issues cannot be examined in isolation as competition issues often also have consumer protection and technical/safety dimensions .... relating to the implications for the safe physical transportation, delivery or use of natural gas sold through retail markets, eg standards for the installation of appliances.

Appendix D of the Gas Reform Implementation Group information paper is titled, "Jurisdictional Approaches to Addressing Issues Affecting the Development of Retailer Competition" and lists Technical/Safety as an issue, second only to Access to Competitively Priced Gas in the ranking of some 16 issues concerning retail competition. At page 15 of this appendix the primacy of the Western Australian *Gas Standards Act 1972* (the Act) is acknowledged in matters concerning safety standards and to ensure the safety of consumer installations and the standard of gasfitting. The *Gas Standards Regulations (WA) 1983* (the regulations) and the Gas Distribution Regulations 1996 were also referenced.

The National Competition Council (NCC) produced an issues paper in March 1999 titled "WA Access Regime for Gas Pipeline Services". Under issues arising from the Competition Principles Agreement [Clause 6 (3)] the NCC reinforced the need for a State access regime to conform to the principle of safe use of the facility, by the person seeking access, be assured at an economically feasible cost and, if there is a safety requirement, appropriate regulatory arrangements exist.

The Gas Reform Implementation Group issued a consultation paper in April 1999 titled "Licensing Arrangements for Natural Gas Retailers". At Appendix 1, page 48, it notes under the head "Safety", the purpose of the *Gas Standards Act (WA) 1972*, Section 13, is to place an obligation on the gas supplier to satisfy themselves that consumers' installations meet minimum standards before commencing gas supply. We also note that the paper referred to several jurisdictions requiring gas suppliers or pipeline licensees to develop, and implement, safety operating plans that focus on maintaining technical standards for supplying consumers.

We ask that your Office consider and respond in regard to the primacy of the *Gas Standards Act (WA) 1972* in matters concerning safety; gas suppliers obligations and Ministerial exemptions of gas suppliers and pipeline licensees under Section 13, "Consumers' installations". Such a response should comment on the relationship between the provisions of the *Gas Standards Act 1972* and Access Arrangements for gas suppliers generally; and in the case of AlintaGas, the Act and Access Arrangements, given the particular provisions of the *Gas Corporation Act (WA) 1994* "*Gas Distribution Regulations 1996*"; Schedule 1 "Grant of Access", Chapter 3 Curtailment, clause 10 sub c. (j) and (k).

The Minister for Energy, the Hon Colin J Barnett recognised the significance of the Victorian Gas Access Arrangements in the Western Australian government's submission to the Victorian Office of the Regulator General (ORG) in 1998; hence reference is also made to ORG reports and decisions.

Section 3 of the National Third Party Access Code for Natural Gas Pipeline Systems (the Code) establishes requirements for "service". It is particularly difficult to assess the definition of service from OffGAR's introduction, overview and tariff principles comments on the Code. This lack of precision suggests that specific information reflecting the intent of the Code should be found in the AlintaGas AA and AAI. Although the base elements of service and technical requirements are scattered throughout the documents, a consolidated definitive set of requirements are not. Interested parties are, therefore, unable to understand the services offered under the AA.

The AlintaGas AA and AAI appear similarly flawed in regard to inadequacy of technical standards and supporting documents. One is left to infer from the AAI that AlintaGas's record as a gas supplier has been safe, reliable and compliant with legislation for gas safety. This inference should be tested. In the absence of a set of complete and definitive "service and technical requirements" documented in the AA or AAI: the practical application of safety requirements and the mutual obligations of a gas supplier to it's customers must be gauged by the stewardship offered by the applicant to industry. Examples of safety concerns include:

– the lack of available documentation from the applicant such as "Approval Requirements for Type B Appliances" which assist industry to comply with a gas suppliers safety obligations under subsection 13 (1) of the *Gas Standards Act 1972* (WA) as amended, or details of any Ministerial exemption granted under subsection 13 (2);

– a failure to acknowledge the changes effected by new regulations being introduced under the *Gas Standards Act 1972* (WA) in the documentation;

– a general lack of knowledge amongst AlintaGas's industrial gas users of the requirements of a consumers gas installation and the role played by the gas supplier in Western Australia, and;

- a concern from AlintaGas industrial consumers expressed to their industry body, the Chamber of Commerce and Industry WA, as to risks associated with gas supply and the safe installation, certification, approval and operation of industrial appliances.

Industrial gas consumers rely heavily upon gas suppliers to ensure compliance with applicable gas safety regulation and such a core obligation must be acknowledged in any AA or AAI in Western Australia.

Clause 134 (i) and 134 (j) of the AlntaGas Access Arrangement, in regard to curtailment, state:

134 (i) if AlintaGas considers as a reasonable person that it would be unsafe or may give rise to an unsafe situation for the operation of the AlintaGas Network to deliver gas to the user at the delivery point;

134 (j) if AlintaGas becomes aware of any non-compliance with the Gas Standards (Gas Fitting and Consumers' Gas Installations) Regulations 1999 downstream of the delivery point by the user, a gas customer or any other person which may give rise to an unsafe situation:

It is disingenuous for AlintaGas to suggest that Curtailment is optional in an unsafe situation. The primacy of the Act in matters of gas safety cannot be ignored. The *Gas Standards Act*, at sub. s 13 (1) states:

13. (1) An undertaker or pipeline licensee shall not commence to supply gas to a consumer's gas installation unless that installation meets the requirements, if any, prescribed in respect of that installation.

If AlintaGas has obtained Ministerial exemptions from this prime statutory obligation: the details should be set out in the AA. The obligations of a gas supplier to withhold permanent gas supply, until a consumer's gas installation meets legislative requirements are prime; and cannot be ignored in the AA. Any subsection 13(2) exemption should not allow a gas supplier to use it's market position to negotiate "approval requirements" which force gas fitters, appliance manufacturers and consumers to act at the behest of such suppliers.

Having established that the safety criteria have been met, prior to initial supply of gas, a gas supplier then has an ongoing obligation to ensure that continuing gas supply is provided only whilst an installation remains compliant. This requires all gas suppliers to make sufficient ongoing enquiry to establish compliance, downstream of the delivery point.

Section 8 of the National Third Party Access Code for Natural Gas Pipeline Systems (Code) establishes principles for design of "Tariffs". It is particularly difficult to assess the Code principle expressed at sub section 8.1 (c), "*ensuring the safe and reliable operation of the pipeline*" from OffGAR's tariff comments on the Code. The lack of reference suggests that specific information reflecting the intent of the Code would be found in the AlintaGas Access Arrangement and Access Arrangement Information. Again a lack of reference to safety in these documents leaves interested parties unable to understand or calculate the risk associated with unresourced safety obligations.

> Reference to the process that the AlintaGas will use to ensure compliance with section 13 of the *Gas Standards Act 1972* may be of assistance to major customers. This section requires the gas supplier to ensure the installation is safe before commencing gas supply. AlintaGas, to fulfil their obligations under section 13, have obtained an exemption from the Minister, following the Director of Energy Safety's approval of their Inspection Plan, which provides for sample inspection of domestic installations and audits of larger installations prior to gas supply commencing. It is understood that AlintaGas is prepared to provide information and details of its Inspection Plan to persons on request and it would be useful to have this stated in the Access Arrangement.

In responding to the submission from Combustion Air Pty Ltd, the Regulator sought advice from the Office of Energy. The following response draws from the advice received.

As referred to by Combustion Air Pty Ltd in its submission, gas safety as it relates to consumers' installations is regulated under the *Gas Standards Act 1972*. This Act has primacy over the *Gas Pipelines Access (WA) Act 1998* in regard to these Gas safety matters.

Section 13 of the *Gas Standards Act 1972* sets out the obligations of a gas supplier (a network operator) in respect of consumer's installations:

> 13.(1) An undertaker or pipeline licensee shall not commence to supply gas to a consumer's gas installation unless that installation meets the requirements, if any, prescribed in respect of that installation.
>
> Penalty: $5000.

Section 13(2) of the Act goes on to provide for the Minister to provide exemptions from inspecting <u>all</u> gas installations for the purposes of section 13(1):

> (2) The Minister may, by instrument in writing served on an undertaker or a pipeline licensee, exempt that undertaker or pipeline licensee from the duty to carry out an inspection of all gas installations for the purposes of subsection (1), and may in like manner amend or revoke any such instrument.
>
> (3) An exemption under subsection (2) may be granted on such terms and conditions, and subject to compliance with such arrangements, as the Minister thinks fit.

AlintaGas has been issued with an exemption under the provision of section 13(2) of the Act. The terms and conditions of this exemption require AlintaGas to have an "Inspection Plan and Policy Statement" that is approved by the Director of Energy Safety of the Office of Energy, and to work to that plan at all times. Failure to do so is an offence under the *Gas Standards Act 1972*. The Office of Energy audits AlintaGas's inspection practices on a regular basis.

The provision for exemptions to undertakers and pipeline operators was introduced in recognition that the prime responsibility for ensuring that a consumer's gas installation is safe rests with the licensed gas fitter performing the work.

In view of regulation of gas safety matters under the *Gas Standards Act 1972* and not the *Gas Pipelines Access (WA) Act 1998*, the Regulator cannot specifically require AlintaGas to make commitments under the Access Arrangement for compliance with the *Gas Standards Act 1972*. Nor does the Regulator consider that there is any need to do so. Nevertheless, the Regulator acknowledges that declaratory reference in the Access Arrangement to regulations, standards and codes that AlintaGas will comply with in provision of services would usefully

serve to bring these matters to the notice of Users. Similar matters relating to technical standards in service delivery were addressed in section 4.2.3 of this Draft Decision with the consequent requirement that the Access Arrangement that the Access Arrangement be amended to reference (for information purposes only) the standards and codes that will apply to the services specified in the Services Policy offered by AlintaGas (Amendment 1). The Regulator considers that this amendment encompasses a requirement to make reference to standards relating to safety.

Section 8.1(c) of the Code states that a Reference Tariff and Reference Tariff Policy should be designed with a view to ensuring the safe and reliable operation of the pipeline. The Regulator has interpreted this section of the Code as requiring that the Reference Tariffs make adequate provision for Capital Expenditure, Non-Capital Costs and Incentive Mechanisms that are consistent with management of the distribution systems in a manner that meets appropriate safety standards. In assessing the Reference Tariffs proposed by AlintaGas, the Regulator sought independent technical advice on levels of Capital Expenditure and Non-Capital Costs that could reasonably be regarded as necessary to meet safety standards. On the basis of the advice obtained, the Regulator is satisfied that the elements of this Draft Decision in respect of Reference Tariffs adequately account for safety matters.